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OUTLINE OF BUSINESS

PART II

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WORLD'S ESSENTIAL KNOWLEDGE

VOLUME X

OUTLINE OF BUSINESS

PART II

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FUNK & WAGNALLS COMPANY
NEW YORK *and* LONDON

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OUTLINE OF BUSINESS

PART II

VIII

THE RÔLE OF THE TECHNICAL EXPERT

THERE is nothing summarily new in the idea of the importance of the technical expert in the whole process of making money-profits. The value of possible contributions from pure and applied science in making and selling goods has long been understood by business management. Twenty years ago, Robert Kennedy Duncan, the moving spirit behind the Mellon Institute, pronounced a factual prophecy, when he said:

> During the next five years the small manufacturer who is swept out of existence will often wonder why. He will ascribe it to the economy of large-scale operations or business intrigues or what not, never knowing that his disaster was due to the application of pure science that the trust organizations and large manufacturers are already beginning to appreciate.[1]

Since 1900, the broad importance of science to industry and the conditioning influence which machine processes and laboratory methods exert

on profit-making business methodology have been generally recognized. To-day, some twenty years after Mr. Duncan's statement, the business enterprises of the United States are spending over twelve times as much money in research as the government and the universities combined. In 1927 some 1,000 research laboratories were in operation under a total cost of $217,000,000, of which $200,000,000 was paid out by business enterprises. In the past twelve years individual business enterprises have increased their research laboratories from fewer than one hundred to more than five hundred.[2] Approximately 30,000 persons are at present employed in applied science investigations. The proportion of all persons having gainful occupations who are "administrators, supervisors and technical experts" has been steadily and rapidly increasing. It stood at 1.25 per cent. in 1870 and at 3.80 per cent. in 1920.[3]

Under the impetus of scientific contributions and mechanical inventions, the technology of making goods has become so elaborate that it is increasingly impossible for management, of and by itself, to oversee industrial as well as commercial and financial operations. From almost the very beginning of the so-called Industrial Revolution in the United States, the process of specialization of labor has been going on between those individuals who have an aptitude

and training for "designing and operating machinery" and those who lean by natural bent, experience, and training toward "dealing with markets for wares and money." Thus "while the old capitalist-employer has evolved on one side into a business management, he has evolved on the other side into a set of technical experts." [4]

The first group of experts to assume importance as advisers to management in the direction of production were the engineers. In the change from domestic handicraft to machine manufacture this development was but natural. It is inevitable that "under the new order the first requisite of ordinary productive industry is no longer the workman and his manual skill, but rather the mechanical equipment and the standardized processes in which the equipment is engaged." [5] To a greater extent than in any other known mode of production, our present large-scale power manufacturing is dominated by physical plants and machine equipment. From the profit-making point of view, management must remember that the first and most obvious commitments of capital which it must attempt to use fruitfully are the investments in plant and equipment. It is essential, then, for management to call upon the engineer and the mechanical inventor to aid in perfecting tools and

machines and in effectively directing machine processes and operations.

Management is fully awake to the value of continuous and volume machine production. From the pecuniary angle, it knows that larger outputs of goods and continuous production results in lower-unit manufacturing costs. It realizes that it must employ technical experts who are familiar with the intricate but precise laws of mechanics in order to direct and control this desired continuity of machine operation and its attendant requirements of power supply, lubrication, inspection, repair and maintenance. Current operating costs must be controlled and eternal technical watchfulness must be exercised over continuous operations and machine processes.

Moreover, operative costs must be reduced if possible. New machines which will still further reduce the necessity for hand labor may mean a sharp decrease in costs. In general, as Stuart Chase points out in the following quotation, factory machines have progressed through three chief stages:

> First, they supplied more power to the skilled worker. They increased his output but left his job substantially unchanged.
>
> Second, they subdivided the manufacturing process allowing unskilled or semi-skilled workers to feed them, remove the output, and carry on

> the few repetitive motions which their tending required. This is the robot stage.
>
> Third, they replaced the unskilled worker with their own steel fingers, doing the feeding, processing, packaging, themselves. The skilled man comes back into the picture as inspector, repairer, adjuster of delicate controls. His job is interesting, non-repetitive; requires intelligence. The robot has largely disappeared.[8]

The step from hand-tending to machine-tending may mean savings in manufacturing costs. Consequently, management is vitally interested in the efforts of its technical experts to develop new machines. It realizes that in keen competition the business enterprise which has an advantage is the one which develops and instals new and better mechanical devices. It knows that power production can advance no faster than the machine-tool, the instrument for making other machines. So it organizes a development and experimental group of mechanical experts to develop new machines and new methods and machines for making new machines. Because this whole process of experimentation and development requires experts in the physical sciences, they too are employed in addition to mechanical experts.

These technicians are employed not for the purpose of accomplishing "discoveries" or perfecting "inventions" which are to be given to society for the free use of anyone who will use

them, but for the purpose of solving definitely formulated problems. The following quotation presents an excellent description of the typical operating process:

> The idea that a certain operation or process ought to be accomplished by machine . . . may originate either in the factory itself, or be conceived by a member of the merchandising committee or by some executive in the general office. Its desirability being passed upon by several department heads, a member of the mechanical division (or sometimes the person who made the suggestion, if he is possessed of a mechanical training) is then requested to prepare a rough sketch for the device. This drawing is then passed over the desks of several members of the mechanical division, each a specialist, to receive critical estimates as to the contemplated machine's feasibility of construction, the materials to be employed, the practicability and proper mechanical functioning of the machine after it is made, its probable cost of operation, and its prospective performance in terms of physical units of product. If the proposal survives these several analyses, specifications are decided upon and preliminary drawings made. An estimate is then made of the cost of construction, and after this has been approved, detailed specifications are drawn for each part of the machine. It is then built and placed in the factory's experimental room to be tested under actual production conditions. All necessary adjustments are made here, and these may require as long as from several weeks to six months or more. When they have been accomplished successfully, the machine

is regarded as perfected for use and is put into service in the department for which it was designed.[7]

In addition to the problem of the most effective use of physical plants and equipments, management faces the necessity of controlling the use of materials in such a way as to make profits possible and certain. Unwatched material-costs can become a tremendous burden upon continuous and large-scale production. A whole new series of experimental possibilities present themselves in the handling of raw materials, waste, by-products, and scrap. Once again, management calls upon the technical expert for advice and guidance. In this situation the chemist, the geologist, the metallurgist, the electro-physicist are all employed to aid in solving the problems of materials-control and use in the hope of developing new profit-making possibilities.

To exemplify the rôle of the technical expert in his study and advice with respect to machinery and materials, one experience of the Ford technical staff is worth recording here. For a long time the process of treating steel by heat was a troublesome process to the Ford technical experts. Obviously, many steel parts had to be treated with heat in order to increase their strength and make possible the use of lighter parts. The process is a delicate one, because each part must have the proper degree of hardness.

If a part is too soft it will wear out. If it is too hard it will easily break. Accordingly the experts worked out a training method for the heat-treat laborers and also a system of mechanical heat regulation. But one problem remained. The straight parts, such as axles, did not cool evenly. After their heat treatment they had to be straightened and the labor of straightening added to the cost. Once again the technical experts began to experiment. After a year or two they commenced to get results. A centrifugal hardening machine was devised. This new machine cools the axle-shafts evenly all around. The necessity for the straightening operation was eliminated. Moreover, an electric furnace replaced the gas furnace. The results are presented in the words of Mr. Ford and his collaborator, Samuel Crowther:

> Where four gas-fired furnaces, with six men and a foreman, did 1,000 connecting rods an hour for the drawing operation alone, now two electric furnaces will both harden and draw 1,300 rods an hour, with only two men—one to feed and the other to take off. . . .
>
> These changes may not seem important, but cutting out the item of straightening after the heat-treat has saved us around thirty-six million dollars in four years![8]

The effective use of technical experts by the Ford Motor Company and by other large in-

dustrial concerns has pretty well convinced the rank and file of business management that an increased dependence must be put on the experiments and the advice of the applied scientist. Management is growing more and more convinced of the truth of Sir Richard Threlfall's statement that "there is scarcely any industrial operation, perhaps no such operation at all, which would not benefit if it were systematically investigated." [9] The technical expert has made good. The invention of new machines, the development of new materials, and the perfection of the technological innovations of applied science are proceeding at an incredible rate. From the laboratory comes the word that a way will be found to make or do anything that is needed. Nothing is impossible to the technicians of a generation that gave the world the airplane and the radio, and multiplied President Harding's speech at the tomb of the Unknown Soldier 3,000,000,000,000,000,000,000,000 times.[10]

As children in school, most of us were inclined to look upon the inventor and the scientist as persons who built contrivances or analyzed "unknowns" with a resulting benefit to society but without any personal reward except perhaps the erection of a monument thirty or forty years after death by starvation in a garret. The early motion pictures improved the lot of the inventor and scientist somewhat, but still he was depicted

as barely living on the pittance crusts flung to him by an industrial concern which made millions out of his discovery. The present generation has completely changed the picture. To-day, the inventor and the scientist experiments in a completely-equipped laboratory. He is well dressed and well fed. His car awaits him outside the laboratory door. The change is the work of the impatient business manager, who cannot wait for technological innovations to be designed, patented, and sold to one and all.

The general watchword of science at the moment is usefulness. Years are no longer spent in a futile search after a formula for synthetic gold, or in attempts to bolster theology by geological discoveries. The medieval alchemist has been succeeded by the industrial chemist, who uncovers new commercial materials and turns old elements "to novel uses in the manufacture of commodities." The geologist is more interested in the possible uses of the earth's materials than in their age. The biologist earns his living by improving the animal and plant life in which his employers deal.

However, if we turn to the social sciences as opposed to the natural sciences, the picture of a developing dependence on the expert by modern business management is not so vivid and clear. Applications of the social sciences to the problems of business lag far behind the applications

of mechanics, chemistry and electro-physics. Only in recent years has the practical usefulness of the knowledge which the social sciences can convey been generally admitted. However, a beginning has been made already and some of the results have been of definite value. "At least as rapidly as they have grown ripe for the task, these sciences have been put to work by new groups of experts, who are gradually gaining something of the self-confidence and the recognition enjoyed for decades by engineers." [11] The psychological expert is being used in studying personnel problems. The cost of placing and training employees is an important cost. If savings can be effected by a psychological study of the requirements of different jobs and a psychological rather than a military supervision of working conditions, management wants these savings effected. If a marketing expert can evaluate even roughly the qualitative factors which are causing sales resistance, management wants the rough evaluation. If a stylist can work out an approximately accurate set-up of the style cycles of the past which can be used as a basis even for *possible* style trends in terms of time, management wants the qualified prophecy. If the business statistician can give sound advice on planning and current operations only seventy per cent. of the time, management wants his advice. And so it goes. The line or operating man-

agement will increasingly lean upon the technical experts who are soundly versed in the sciences of nature and of man.

The story is told that in the days now past, when business was more intensely an affair of personal rivalry, the head of a large manufacturing concern startled his business rivals by hiring two chemists.[12] One of the jealous rivals headed for New York almost immediately, hunted up a friend with a knowledge of chemistry and chemists, and said: "I understand that So-and-So has hired two chemists. I want you to get busy and hire me four."

Yes; but what of the small business enterprise that cannot go into the open market and "buy four chemists"?

The most of what has already been said about the value and importance of the technical expert would seem to imply that only the large-scale business enterprise will have funds enough to make effective use of the possible contributions of applied science. And yet there are thousands of small business enterprises, no one of which can conduct a research laboratory, and every one of which could profit by technical guidance and advice. Organized cooperation in trade associations is the small business enterprise's main hope of securing needed technical advice. For many years the trade associations have been doing intelligent and valuable scientific work.

"At least forty trade groups are engaged upon such programs, and these groups vary from a half-dozen individual members to many hundreds, and spend from small amounts up to a million and more dollars annually." [13] Unquestionably a well-organized trade association can provide for its members many of the benefits which come to an individual business enterprise which is large enough to maintain its own laboratory, tho perhaps not in quite the same degree.

The business managers of many small business enterprises are, of course, skeptical of any group-research projects. They feel that in engaging in trade-association research, they may be surrendering some of the advantages which they enjoy as competitors in the field. They forget that any benefits that can be secured from the new truths which may be discovered rest almost directly upon the ability of the individual enterprises to apply to their individual activities the data thus secured. On account of this feeling, however, most trade associations which undertake scientific research attempt to select problems sufficiently fundamental to avoid a competitive spirit.[14]

Many such organizations begin their program of work with standardization and simplification activities. In these efforts the trade association may call upon the aid of the Division of Simplified Practise of the Department of Commerce.

The development of a Simplified Practise Recommendation by the Department of Commerce starts with a determination of existing production and sales-trends by means of surveys conducted by committees appointed by the trade association concerned from its own membership. From these surveys a tentative recommendation is set up and presented to a general conference of all members of the association, and other distributors as well as users. Following this general conference, the recommendation is presented to more or less the entire industry by letter referendum. The formal endorsement of the recommendation by the Department of Commerce is generally made dependent upon an acceptance of the program by at least 80 per cent. by volume of each group concerned.[15] Much has been accomplished by the Simplified Practise Division of the Department of Commerce in cooperation with trade associations and with individual business enterprises. Typical examples of this work are the reduction of 44 different types of common brick to 1, the reduction of 1,351 different types of files and rasps to 496, the reduction of 125 types of metal lath to 24, and the reduction of 1,819 varieties of sheet steel to 261.

By working through the trade association and with the cooperation of the Department of Commerce the small business enterprise can emulate and approach the savings that large-scale busi-

ness enterprises have been able to effect by simplifying materials and supplies. Some of these latter savings have been tremendous. The Pennsylvania Railroad, for example, has succeeded in eliminating 44 per cent. of the items carried in its stores, making a reduction of from 140,000 to 78,000 items. The Union Pacific Railroad effected a 46-per-cent. reduction in the number of items carried in its stock, which promptly released $18,000,000 tied up in stores inventories.[16] One specialized organization, namely, the American Society for Testing Materials, offers its services to trade associations in carrying on cooperative research projects looking toward the standardization of specifications and methods of testing materials. It has already done work in sixty-five different industries.[17]

Nor is there any real need for the trade association to limit its technical work to such fundamentals as simplification and standardization. Ten or eleven years ago, for example, the idea that technical research could be of benefit and profit to the cleaners and dyers suggested itself at the annual meeting of their trade association. To-day, a modern institute has been erected at Silver Spring, Maryland, which carries on research work of varied character. The beginning of this project was a program which made use of a consulting chemical laboratory continued upon the fellowship plan at the Bureau of Stand-

ards. Now, in addition to technical investigation, the Institute offers a series of technical courses to those who are either employed in or who are expecting to enter the dyeing and cleaning business. The activities of this research project indicate what an industry composed, for the most part, of a large number of relatively small units, can do for itself.[18]

It is manifestly impossible to evaluate the assistance of the technical expert and the contributions of applied science to the task of business management. The most that can be said is that through the efforts of individual business enterprises and trade associations some industries have profited immeasurably by making full use of technical and scientific advice. The steel industry owes its existence to the contributions of science. Crude methods of making steel have been steadily improved by scientific experiment, and new steels, nickel, chrome, tungsten, vanadium, and so on, have been developed to meet special demands. Adequate fuels have been devised and waste gases have been utilized. The inventor and the mechanical engineer have been back of most of the mechanical progress in the automotive industry. The rubber industry, whose business in 1925 amounted to a billion and a quarter dollars, maintains some 24 research laboratories and employs 1,066 research workers. The services of the chemist and the physicist

are continually used to work out new methods of treating rubber and to suggest new uses. However, it may not be out of place to point out that in a list of the 32 American corporations holding the highest rank as measured by research workers employed, there does not appear a single representative of two of our basic industries, namely, coal and textiles.[19] Incidentally, these same industries have been at the bottom of the earnings scale in recent years. Of forty-four American countries which, during the war, engaged in the production of potash, only one has survived. That is the one alone which developed and supported a program of research.[20] There is evidently still much to be done. Business enterprises cannot evade the necessity of new attitudes and new methods by the simple process of glorifying integrity of product and honor and dignity of personnel.

A more intensive and extensive use of the technical expert who is versed in the sciences of nature and of man is inevitable. There are three reasons for this statement. In the first place, the course of business during the years that are just ahead is going to be severely competitive. We have a tremendous production equipment, and the owners of that equipment are going to insist that it be used. Second, we face an increasingly uncertain consumers' demand. There are still "large blocks of con-

sumers" who have yet "to find and disclose their places in our general consuming power."[21] Huge production equipment and uncertain consumer demands make for highly competitive conditions. Hence the development of better technical control in the direction of less waste and more production per unit of expense is a major problem. Third, an efficient technical guidance and control of business activities is necessary to secure harmonious industrial relations.

> You cannot take your industrial relations problem away from your operating problem—consider it by itself. Your real personnel department is the whole group of those working and managing. The effectiveness with which you do the things, the extent to which you can make efficiency of effort and pleasure identical, the extent to which you can do a thing so well that you can pay a better wage than is customary and survive as a profit-making institution—to that extent you create the basis for harmonious industrial relations.[22]

Now, this whole program of technical improvement must be based very largely on the machinery of research and experiment. Most of the data which establish a factual basis for cost-saving methods of business operation is so concealed in a great mass of intermixed usable and non-usable elements that specialized and expert methods for their discovery, valuation, and util-

ization are absolutely necessary. Tiny shreds of an idea chased down to a fundamental law which can be scientifically and persistently applied make possible tremendous business evolutions. With constant experimentation, the wastes and inefficiencies of the past and the present can be made to yield the profits of the future. Business management, in general, can well say with Arthur Little, "The price of progress is research, which alone assures the security of dividends, and that progress is made not by raising tariffs, but by devising new methods, new equipment, new organization for operation, distribution, and control." [23] In the making of goods the technical expert must build upon the natural sciences. New discoveries and new evaluations are necessary preliminaries to new utilizations. Likewise, in the managing of men, the technical expert must build upon the social sciences. New facts and new testing are fundamental to a firm foundation.

Because of the organization of our complex money-profits or business economy, the technical expert will remain for the most part merely an adviser to the business manager. The highest authority in deciding what business will or will not do rests with management. The technical expert has his opportunity to share in the guidance of business activity, but only in a somewhat secondary rôle. Business management assumes the

responsibility of making profits and business management must retain the final word in deciding upon the technical program.

Consequently, it would appear that business management must survey the whole technical order with the clearest vision and the most receptive attitude of mind. It must be more ready to recognize and accept the unquestioned value of research accomplishments.

> The American rights under the viscose patent for artificial silk could have been purchased at one time for $50,000. No American buyer could be found. In 1925, a foreign-owned corporation produced in this country, thirty-six million pounds valued at $81,000,000. The sulfite process for making wood pulp; the basic syntheses for dye manufacture, the manufacture of methaenol from blue water gas, not to mention rare accomplishments in the field of optical glass —all remind us of lost opportunities in America to capitalize American intelligence for the prosperity of American industries.[24]

Management must be alive to scientific opportunities. When research produces something which possesses commercial possibilities, the inventor and the research worker should not be obliged so often to engage in a campaign of personal salesmanship and industrial advertising to secure an opportunity for the development of his discovery.

Again, business management must be patient

with research. In the past it has not been uncommon for a century to elapse between the discovery of a natural law of chemistry or physics and a practical or commercial application of it.[25] The scientific expert must not be regarded as a dealer in miracles. He cannot fairly be expected to produce overnight from his manuscripts and test-tubes the answers to problems that require five years of experimental work. There is a deal of danger in setting up the technical expert as a modern Aladdin and judging results by an inadequate time factor. More than once the progress of research has been seriously jeopardized and even crippled by demanding results too quickly.

Finally, business management needs to recognize more fully the relationship of pure science to applied science. Most of our present-day industrial inventions which fairly take our breath away as we contemplate them are founded upon principles gleaned from nature by the pure scientist of a few decades, generations, or centuries back. What will happen when we have applied practically all the knowledge of pure science which we possess? "We are utilizing the basic raw material of research—the common fund of information about nature's laws—faster than we are adding to it."[26] And yet the two processes of applied and pure research should be kept in balance.

Management cannot afford to shirk its responsibility in contributing to the forward march of pure science. It has much to gain. There is no reason to suppose that all the useful knowledge in the fields of pure science has been discovered. Human needs and coincident markets abound for products that still await the discovery of fundamental but unknown principles of pure science. There is scarcely an industry in operation to-day which does not feel the need for more basic and purely scientific information at some conjuncture of manufacture and applied science. Certainly, any increasing disparity between the amount of work in pure and applied science is of real significance to business management.

It is seemingly strange that America, a country which has few rivals in applied science, should lag so much and so far behind the European nations in its progress in the fields of pure science. Despite the fact that the Nobel prize has come to four Americans, Millikan and Michelson for physics, Richards for chemistry, and Carrel for medicine, much more work is being carried on in pure science by our European neighbors. In England, twenty-six research associations are the recipients of an amount of government subsidy of $25,000,000, a large portion of which is used in research in the fields of pure science. In our own country, the total expenditure for both

governmental and university research for 1928 was $17,000,000 as opposed to $200,000,000 spent in industrial research. While the figures unquestionably intertwine to the extent of indicating an accurate picture of the amount of effort being put into pure and applied science, still they apparently point out a trend. In France, a tax on salaries paid among industries is sufficient to raise $750,000 a year for fundamental research. Business management in America must soon realize that it is indispensable that more time and money be devoted to fundamental research if we are to keep up the technological advances of the past and present. We must add to the common fund of information about the laws of nature and of man if we wish to increase their commercial applications.

> Already does that organization put up the shutters and beckon to the receiver which through parsimony, through blind prejudice, or through just dumb ignorance fails to fall into line and keep step in the procession of forward-marching moods, methods and marvels of the present day in industrial affairs.[27]

And behind all the new moods, methods, and marvels lies fundamental law!

IX

THE RÔLE OF THE LENDER

THE Biblical parable of the "talents" has both a spiritual meaning and a business bearing. When the lord of the servants came and reckoned with them, he cast the unprofitable servant into outer darkness with the reproof, "Thou oughtest therefore to have put my money to the exchangers." It was not enough for the slothful servant merely to hoard and bury the one talent in the earth while the master traveled into a far country. Fruitful using as well as safe-keeping had been his charge. Because he did not completely execute the charge, because he had not the fruits of use, there was taken away even that which he had—the original talent.

The admonition of the modern business lender is much the same. He plays his rôle in our business economy by harnessing credit to the business wagon and counseling the coachman in the safe and productive use of the draft-horse.

At one time or another most business enterprises need to borrow. In the process of borrowing funds, the business enterprise must satisfy the lender of its ability to safeguard the principal and to pay the interest. Thus it is that

management must often submit its business judgments to the court of the lender. We have already noted the fact that management, with the assistance of employed technical experts, plays the most active and important part in guiding the activities of a business enterprise. However, since modern business is largely transacted with borrowed funds, management must submit most of its important projects to review by lenders of credit or investment funds.[1]

This review of the projects of management is not merely perfunctory. It has a decided practical influence upon the guidance of business activity. New enterprises and new expansions of old enterprises are always being proposed in larger numbers than available funds can finance. By accepting some proposals and rejecting others, the lenders, to a very large extent, have been able to direct the course of business development and to dictate terms and policies to "going concerns." Thus it can be said that one of the most important factors in the final control of business activities—the right of review—is vested in the creditors of business enterprises.

The most vigorous and intelligent review of management's projects is generally characteristic of the financial lending institutions rather than of individual lenders. In fact, the traditional sources of the greatest volume of funds

which may be borrowed for the creation of new enterprises or for the expansion of old ones have been these lending institutions.

The principal financial institutions which assemble funds and which make their assembled funds available for business use are the savings-banks, the insurance companies, the commercial banks, the trust companies, and the building and loan associations.

There are many kinds of savings-banks, ranging all the way from mutual savings-banks to postal savings-banks. Essentially, the savings-bank is interested in collecting small streams of savings deposits from a large number of relatively small depositors. These banks then hold the collected deposits and pay interest on them, but do not permit the issuance of checks against the deposits. They reserve the right to require notices of withdrawal from their depositors. The period of these required advance notices ranges from ten to sixty days. Now, in order to make money with which to pay interest to the depositors, the savings-bank must find some way to lend these deposited funds to safe business enterprises. Because the clients of the savings-banks are mainly working people who desire a secure depository for their savings, the laws of the individual States more or less prescribe how the savings-banks may invest their depositors' funds. Consequently, these banks invest very largely in

real-estate mortgages, and in government and railroad bonds. On June 30, 1915, the total savings deposits in the United States were $9,241,000,000, and the total bond holdings (loaned deposits) were well over $5,000,000,000. On June 30, 1925, total savings deposits of $21,408,000,000 and security holdings of $14,000,000,000 were reported. In this ten-year period, then, the savings-banks alone absorbed more than $9,000,000,000 of new securities, or in other words, extended $9,000,000,000 worth of new aid to business enterprises. Savings-bank deposits appear to be growing at the rate of $2,000,000,000 a year, and so it can be said that this financial institution alone is in a position to make over $1,000,000,000 of new loans to business each year.

The insurance company is also an important collector of many small streams of funds and a large lender to business enterprises. Fire, hail, marine, accident, life, and a multitude of other kinds of insurance companies are engaged in assuming most of man's definite risks. Their activities consist of collecting periodic premiums from their policy holders according to a contract, in return for which they agree to pay the policy holder or his beneficiaries a relatively large and stipulated amount in the event of the actual occurrence of the misfortune against which the policy holder has insured. The prob-

abilities of fire, death, sickness, or what not are worked out by actuarial mathematics and experience-assumptions. As a result, the premiums are fixed at a level which will enable the company to pay for such losses as may occur and still make profits. Thus large funds are created, which, of course, in equity, belong to the policy holders in the main. These funds are invested in real estate, loans secured by mortgages on real estate, and in bonds—municipal, railroad, and industrial. The admitted assets of the life-insurance companies alone total more than $15,000,000,000, so that the reserve funds of all insurance companies which are employed in aiding business enterprises constitute an extremely important sum.

The commercial or business bank also carries on the important activities of assembling funds and of making loans. When the bank is formed, the stockholders provide funds, and from time to time they and other clients deposit varying amounts of funds in this reservoir. Most of the funds, of course, come from depositors. The bank knows that it is wholly unlikely that all the depositors will want all their money at exactly the same time, and therefore it does not keep its funds idle. In actual practise, taking an average over a long period, the bank knows that it need keep in its vaults only from fifteen to twenty per cent. of its total deposits. Much

of the rest can be utilized as loans to business enterprises. However, the bank must rely on its loans to meet its obligations, and the character of its obligations determines the kinds of loans it can make. Any bank must stand ready at all times to pay any of its deposits whenever payment is demanded (in case of demand deposits), or when they are due (in the case of time deposits). Consequently, a commercial bank with demand obligations must make its loans for shorter periods than the savings-bank with time deposits or obligations. The commercial bank, in the main, then, makes call loans, demand loans, and relatively short-term loans running from a maturity of a few days up to six months. Moreover, the maturity dates of these short-term loans are usually arranged in such a way that the obligations of the borrowers fall due steadily and successively. In their lending function, the "commercial" banks specialize in short-term loans. A rough idea of the importance of the commercial bank as a lender may be gained from the total loans and discounts reported by the member banks of the Federal Reserve System. On September 25, 1929, this figure reached a total of $17,244,000,000 as compared with a total of $15,868,000,000 on September 26, 1928.

Trust companies, too, are important contributors of permanent capital to business enterprises. Fundamentally, the trust company per-

forms the function of administering funds which have been put in trust. It acts as trustee and business manager for "passive investors," and especially as executor and administrator of estates, or as guardian of a minor heir.[2] It has no connection with those monopolistic enterprises which are sometimes called "trusts" except the connection of verbal accident through the word, trust. In current practise, the trust company does a variety of things. It may act as trustee for a corporate mortgage, as fiscal agent, as registrar of stock, as a transfer agent, or as a manager of an underwriting syndicate. It may serve as curator, assignee, receiver, and custodian for property in dispute. Moreover, it is quite likely to do a commercial banking business and to accept savings accounts. Thus it is a large assembler and manager of funds which it must keep safe and busy.

Another foremost savings institution which is rapidly becoming an important lender is the building and loan association. This institution is the most successful form of cooperative credit institution that has yet appeared in the United States. The ostensible purpose of the building and loan association, or the savings and loan association, as it is sometimes called, is to promote saving and home-building. Small payments are made to the association at regular intervals by the members, and money is loaned to mem-

bers on mortgage to help them finance the building of homes. For example, a member buys stock with a par value, say, of $500, and pays 50 cents a week until the amount he has paid in, plus the earnings, equals $500. If he is merely an investing member, he then receives the $500 in cash. When he borrows from the association on mortgage in an effort to build a home, he must take out stock, the par value of which will equal his loan. When he has paid up his stock, the loan is canceled. In 1926, some 12,800 building and loan associations were in operation with a membership of 11,275,000 and total assets of $6,280,000,000. During 1926 the gain in assets made by the building and loan associations was greater than the increase in savings deposits recorded by mutual savings-banks and national banks combined. While a large part of the assets of these associations must inevitably be put to work in real-estate loans, the desire for diversification will undoubtedly direct an increasing volume of its assets into bonds. Any "catching-up" in home building will hasten this movement.

Between these many and varied financial institutions which assemble small streams of funds into huge amounts and the business enterprises which desire to use these funds there is need for some kind of liaison or connection. To answer this need a large number of financial enter-

prises have sprung up which, while they may serve to some extent as agencies for assembling funds, are primarily engaged in marketing funds to needy business enterprises. In fact, they may be called financial "middlemen." The most important middlemen that make up this group of marketing functionaries are the financial brokers, the mortgage companies, the investment-banking houses, the commercial-paper houses, the commercial-credit companies, and the investment trusts.

In the same way that a canned-goods or a fruit-and-vegetable broker, without owning or perhaps even possessing these commodities, brings sellers and buyers together, the financial broker brings together the lenders and the borrowing business enterprises. The financial broker does not own the loanable funds, nor does he necessarily have possession of them at all during the whole process of negotiation. In the smaller towns and communities these financial brokers are very often lawyers or real-estate men who perform this brokerage service for a fee "on the side" as a supplementary activity to their fundamental business labors.[3] When the volume of this financial work grows they become specialists in brokerage.

Mortgage companies are also marketing middlemen engaged in bringing borrowers and lenders together. The mortgage company uses its

funds to buy mortgages issued by business enterprises and sells these mortgages to individual purchasers, savings-banks, insurance companies, and trust companies. This type of company may be either a partnership or a corporation, and consequently it obtains its funds from the contributions of its partners or from the sale of stock to the public as well as from its surplus earnings. Some mortgage companies buy mortgages and, with these mortgages as collateral, issue and sell their own obligations (bonds). For example, a mortgage of several millions of dollars on a large hotel, office building, or apartment house may be negotiated by the mortgage company and distributed in small units among a large number of investors. The holders of these small-unit bonds become creditors of the mortgage company, but in no sense do they become the mortgagees of the property which may be serving as collateral.

The investment-banking house, like the mortgage company, is essentially a financial middleman. This type of company, commonly known as a bond house or an underwriting house, is usually a private institution conducted by a small group of partners. Only a few investment-banking houses are incorporated. The business of the investment-banking house is fundamentally that of buying securities at wholesale and selling them at retail. In general, it performs one or more of

the following functions: investigating proposals, forming syndicates for underwriting, and selling securities. Extreme caution is exercised before making an agreement to handle a new issue of securities. In the case of a railroad-bond issue, for instance, the investment-banking house will engage engineers to make a complete physical appraisal of the road, lawyers to examine its leases, franchises, and the legal status of other outstanding securities, and accountants to verify the earnings and the set-up of the assets and liabilities. Moreover, the ability of the management and the factor of competition from other lines will be carefully evaluated. Sometimes the investment-banking house will buy bonds outright and then proceed to sell them in small lots to large numbers of investors. At other times the house will "underwrite" an issue by insuring the borrowing enterprise that if the securities in the issue are not entirely sold in the open market the investment-banking house will buy the remainder at an agreed price. Again, the house may take the lead in forming a purchasing syndicate by bringing other investment-banking houses into an organization to underwrite an issue of securities. The following statement exemplifies the method:

> The XYZ Railroad issues $10,000,000 first-mortgage bonds at 6½ per cent. at a par value of $100. A syndicate consisting of bank A as

syndicate manager, and banks B, C, D, and E as underwriters, pools its resources or forms what is known as a joint account and buys the securities from the issuing corporation at a price of $97. From the time of this purchase to the final disposition of the securities, the issue must be "carried" or taken over by the buying syndicate, which must provide the corporation with an amount equal to the purchase price of the securities. Funds are usually borrowed from commercial banks or trust companies, which accept the securities themselves as collateral on this amount. The banks lend from 70 to 80 per cent. of the total amount, while the underwriters furnish the remainder.[4]

In the same way, selling syndicates may be formed, consisting of fifteen to twenty associates, the number depending upon the size of the issue. In fact, the selling associates may assume "unlimited" or "limited" liability for the sale of the securities. In the former case, profits and losses are shared in proportion to the amount underwritten by each member irrespective of the actual amount of securities which may have been sold by the individual member. In the latter case, each selling associate is responsible only for the amount of sales which he has guaranteed.

As an illustration of limited liability, bank A has underwritten $500,000, but has sold only $300,000 and so it must take over the difference of $200,000 at the dissolution of the syndicate. On the other hand, with an unlimited liability,

bank A has underwritten securities to the extent of one-tenth of the entire issue, or $500,000, and sells $600,000 of these securities. Other members of the syndicate are not as successful in their sales, therefore at the dissolution of the syndicate there is still a balance of $2,000,000. Altho bank A has effected sales in excess of its subscription, nevertheless, it is compelled to take over additional securities to the amount of one-tenth of the balance, or $200,000.[5]

There are other ways of underwriting, but the basic service in each and all of the methods is to make available for the business enterprise "a definite, dependable amount of funds."

Another type of specialized intermediary or financial middleman is the commercial-paper house. This marketing agency receives no deposits except the contributions of its partners or proprietor. It extends credit to borrowers by buying their obligations. These obligations, promissory notes in the main, the commercial-paper house sells to commercial banks and individual purchasers. Generally speaking, the commercial-paper house does not indorse the paper which it buys and sells, so that this house cannot be held liable by the purchaser if the "instrument" is dishonored at maturity.

Still another important intermediary between lenders and borrowers is the commercial-credit company, sometimes called discount company or finance corporation. This type of company buys

the "book accounts" or "accounts receivable" of business enterprises and collects these accounts as they come due. Almost every business enterprise sells some of its goods "on account," and many find it convenient to sell these accounts at a discount to the commercial-credit company in order to secure an immediate command of funds and instead of waiting until the accounts fall due and are collected. Trade acceptances and notes receivable are also discounted by this company. It is also used in financing instalment sales. On the basis of these purchased and discounted obligations the commercial-credit company sells its own obligations to individual purchasers and to commercial banks, who thus become the real lenders.

The newest form of financial middleman is the institution which is known as the investment trust. This type of financial institution is distinctly a post-war development in the United States, altho London and Edinburgh investment trusts have a tradition that goes back six or seven decades. The first sizable American trust was started in 1921, but the rapid development of the investment-trust idea has occurred only during the past four or five years. Dr. L. R. Robinson defines this new financial institution as follows:

> An investment trust is an agency by which the combined funds of many investors, both in

large and small amounts, are utilized to purchase such a wide variety of securities that safety of principal is attained through diversification, while the portfolio is so managed that a good average yield is sought on share and borrowed capital. At the same time a close supervision of the portfolio permits a turnover policy aimed at the realization of the capital gains and the avoidance of capital losses.[6]

Fundamentally, there are three types of investment trusts: the general-management type, the fixed type, and the limited-management or semi-fixed type. The differences among these types are management differences rather than legal or capital-structure differences. In the first type the management has great freedom in shifting the investments of the trust, and any public knowledge of the holdings of the trust is non-existent or only occasionally and partially available. The holdings of this trust may include a wide variety of securities, call money, commercial paper and bankers' acceptances, as well as stocks and bonds; both civil and corporate obligations; and foreign securities as well as domestic.[7] The fixed type of investment trust allows little freedom to management. The holdings of this type of trust cannot be changed except in case of merger or reorganization, and information as to complete holdings is available to the public. The semi-fixed type of investment trust allows management to make changes in the list

of holdings under certain circumstances and from limited lists of other securities. Investors are informed of any replacements and know what securities underlie their own investments in the trust. While, in general, the investment trust uses the funds which it has assembled to purchase listed stocks (shares in business ownership), nevertheless it is an important lender, because it purchases bonds, makes call loans, and lends on short-term notes as well. Unquestionably, it is a merchandising agency through which collected funds can be loaned or invested in ownership. It is, however, a merchandising agency which places a great deal of emphasis upon assembling funds.

Such are the most important lending institutions and the most common financial middlemen. Both the institutions and the middlemen are vitally concerned with the task of making funds available to business enterprises which need to borrow. In the exercise of this activity, they render a very real service to business and to society. As the reviewers of business projects, they have much to do "with the apportionment of our social resources among the enterprises of the community."[8] Theoretically, they aid in that they make an impartial investigation of the merit of the proposal which is to be financed. Nevertheless, these institutions and these middlemen are operating business enterprises in and

of themselves. They are operating in a business economy for the purpose of making profits. In this quest for profits, does the lender consider social needs or does he intensify the conflict between the aim of business and the aim of society? Just what is the rôle of the lender to-day as compared with the past? Is the lender furthering or hindering progress in the direction of a solution of the so-called economic anomaly?

In the past, our financial institutions have been able to dictate policies to going business enterprises somewhat at will. Moreover, the policies dictated have generally been policies which have been favorable to the lenders themselves rather than to the borrowing business enterprises, "except in those instances in which the two sets of interests" by mere chance have coincided. The willingness of the lender to make loans all too frequently has been conditioned by his own interests rather than by the needs of those engaged in producing and distributing goods. Commercial banks have refused loans which were essential to business enterprises because the proposed loans did not offer the desired money gains to the lending institution. Investment banks have been known to refuse to underwrite proposals which were essentially sound because the prospects of securing the desired promoters' or underwriters' profits were not clearly apparent. There have been plenty of

specific instances of "restricted production" which can be directly attributed to the profit-making desire of the lender.[9] It is small wonder that the statement is sometimes made that "instead of credit serving production, it appears that production is subject to the will or whim of credit."

There is, of course, ample historical reason for this dictatorship of the financial institutions. As our discussion of the evolution of business economy has already indicated, banking became a business while manufacturing was still in a handicraft stage. The lender was in a powerful position "when the factory system was born."

> As modern capitalistic industry emerged, large and increasingly larger aggregates of capital were needed for the building and expansion of factories. The banks were the only sources from which the needed liquid capital might be secured. Therefore the banks became both owners and creditors of the new industrial enterprises. The increased production due to the factory system made available still larger resources for the banks, and so the growth of industry and the growth of banking were cumulative, each contributing to the other. Yet while manufacturing enterprises were turning out large volumes of wealth, their needs for both fixed and circulating capital tended for a long time to increase more rapidly than their own ability to supply it. Both the old enterprises and the constantly increasing new ones were compelled to cater to the banks to supply their financial needs.[10]

At the present writing, however, the business enterprise appears to be becoming somewhat independent of the financial institutions. Since 1921, business managements have apparently given a good deal of attention and effort to the task of "growing from within." They have learned the lesson of forethought and have built up accumulated reserves and sinking funds against definite future requirements or against various possible contingencies. An adequate surplus is the best insurance against credit stringency, and the present-day business enterprise seems determined to be amply insured. Consequently, in addition to "plowing back" accrued earnings into the business from time to time, many enterprises are keeping their surplus on hand in highly liquid form for long periods. By supplying their own capital and by preserving a large and liquid surplus, such enterprises are gradually freeing themselves from the dictatorship of outside financial institutions.

In fact, large portions of such surpluses are being invested in securities, and thus the business enterprise itself is entering the field of banking. Business surpluses compete with banking funds. Many corporations are to-day making "banking" profits by lending portions of their surplus to other enterprises. "Thus these surpluses actually are supplying investment credit

to other concerns, whose surpluses are, in turn, invested in the securities of still other concerns."

The growth of the corporate items of "cash" and "securities" has been extremely rapid and is certainly significant. On December 31, 1921, 106 major companies in 18 different American industries had over and above their notes payable some $221,000,000 of cash and marketable securities.[11] In the short period of six years these same companies had increased their cash and security holdings to $1,670,000,000. The *Wall Street Journal* of June 2, 1927, gives an analysis of the reports of 129 corporations for the year ending December 31, 1926, which shows that the 129 enterprises had cash and security holdings which totaled $2,251,365,355, an increase of $292,134,031 over their record for 1925. The *Wall Street Journal* commented in part as follows:

> United States Steel Corporation heads the list in total cash and security holdings with $317,933,603, a gain of $22,588,651 over the preceding year. Standard Oil of New Jersey comes next with $210,447,186, General Electric third with $147,536,549, and General Motors fourth with $135,398,386. There are eleven companies in the list with aggregate cash and security holdings of close to $1,000,000,000.

In this process of strengthening their financial position the larger business enterprises have not gone into the "banking" business merely by

lending to other concerns through the purchase of securities. Many, indeed, have organized their own privately operated commercial-paper houses. The Industrial Acceptance Corporation of the Studebaker Corporation and the General Motors Acceptance Corporation are "banking" efforts in the direction of supplying credit to customers and at the same time securing cash from deferred-payment sales. Even the smaller business enterprises which are located in the less important industrial centers are becoming owners of banks which conduct a general commercial or investment business.

In addition to this growing financial independence of the business enterprise there is ample evidence that the interests of the lender and of the business manager are becoming "more nearly identical."[12] As a class, the banking lender is no longer set so sharply apart from the trading or manufacturing business enterpriser. Our industrialists and merchants are becoming officers and principal stockholders of financial institutions in larger numbers every year. This intermixture of bankers and business enterprisers on the boards of our financial institutions tends to cause any serious conflict of purpose to disappear. When the directing officers of a bank are composed in part by men who are the active owners as well as the creditors of business enterprises, mere banking-profits

possibilities will cease to be the all-important determinant in making loans. On the higher levels the functions of the "lender" and the "enterpriser" merge.

Another significant tendency which appears to be operating toward a merger or a unification of the interests of financial institutions and of merchant or manufacturing enterprises is the organization and operation of separate securities companies by the large commercial banks. These subsidiaries perform all the functions of investment houses and purchase the stocks and bonds of industrial corporations.

Finally, it should be pointed out that in instances of promotion and underwriting by investment-banking houses, the profits secured by the promoters or underwriters generally consist of stock in the companies which are being financed. In such cases, the ultimate profits to the investment house would seem to be bound up quite intimately with the profit-making operations of the industrial corporation which the investment house has financed.

> Two of the best-known of our giant holding companies engaged in manufacturing are the United States Steel Corporation and the General Motors Corporation. Both of these companies were conceived and organized by bankers. And the bankers who promoted them continue to own large blocks of their stock. In fact, these blocks of stock may be regarded as among the chief

assets of the bankers. It is difficult to imagine a gain to be made from any financial operations as bankers which would be large enough to justify a sacrifice of the companies in which they are stockholders. Nor is it probable that they willingly will permit any other group of bankers to reap any benefit at the expense of the companies.[13]

By and large, then, the rôle of the lender is to review the projects and proposals of management not alone from the point of view of possible "banking" profits, but with a recognition of the fact that credit facilities are an essential necessity of business. While in actual lending practise many instances of spectacular financial manipulation may be cited, in the main, the tendency toward "the granting of credit as a matter of routine upon the presentation of specific kinds of security or the establishment of a certain level of operations, as shown by a suitable statement, and the abandonment of the type of operation in which credit was granted merely because of personal considerations" is clearly indicated. The services of financial institutions in extending technical aid to their creditors by means of the employment of marketing experts, industrial engineers, and even research specialists is seeming evidence that the financial institutions are attempting to

become more than mere lenders. As purveyors of credit, they are attempting to facilitate the use of the credit by business enterprises in the process of making more goods and more money.

X

THE RÔLE OF THE CONSUMER

SOMEWHERE there is an old tale that goes in part as follows: " 'Their pockets are full of money,' said the Keeper of the Inn, 'but there is not a mother's son of them that knows what to do with it.' " Such is the picture of the average consumer which is often seized upon in these hypercritical days. It is easy to portray the consumer in this present world of amazing amounts of available goods as wandering perplexed and bewildered in a Wonderland of Wares. The bold and facile pen-strokes of the following consumer's chromo bear witness to the method:

> Wonderland indeed! A wilderness in which we consumers wander without chart or compass! We buy not for the value of the product to meet our specific needs, but because the story told on every billboard, every newspaper and magazine page, every shop window, every sky sign, every other letter that we receive—is a pleasing, stimulating and romantic story. It bears a Message Straight to our Hearts. But whether or not it is a fairy story we do not know, save through the bitter and wasteful process of trial and error.[1]

Unfortunately, the vividness of the picture may cause us to miss a most important and essen-

tial point. That point is here: No matter how ineffectively and haphazardly the consumer may practise the science and art of consumption, no matter how unconcerned he may be with respect to any individual necessity for technical buying knowledge, still, the consumer has the whip-hand in determining what goods shall be produced.

Business management may play the most active rôle in guiding production. The technical expert may advise and guide the process of production. The lender may approve or reject technical suggestions which have been accepted by management. But in the end the whole body of consumers with money to spend plays the rôle of the court of last resort in deciding what goods shall be made. Because the consumer is an individual, he has individual ideas about what he wants to buy, no matter how fuzzy, vague, and troublesome these ideas may be. Furthermore, if the consumer is free from the restraints of monopoly and of government, the expression of these ideas determines for the most part what is to be produced. The act of spending money expresses the consumer's wish and forces the producer to set up consumers' demand as the final arbiter of production, both in amount and in kind. "Whether the consumer refuses to comply with the wishes of the maker, or the maker refuses to comply with the wishes of the con-

sumer, in either case it is the maker who suffers; it is 'Heads you win, tails I lose.' '' [2] There is no appeal from the court of last resort.

All along the line, from the raw materials to finished consumers' goods on the shelves of the retail store, every business enterprise which is concerned in any way with buying, manufacturing, storing, transporting, grading, or financing any part of the process must assume heavy risks. And the most important business risk is the uncertainty of the way in which the buyer will make use of his freedom of choice. The flow of money-profits through the consumers' markets and into the coffers of business is directed and conditioned by the daily exercise of freedom of choice on the part of millions of individual buyers.[3]

The individual buyer who has money to spend enjoys three options. He is privileged to decide when he will buy, where he will buy, and what he will buy.

He has definite freedom of choice with respect to the time of spending his money. That portion of his money-income which he does not need to keep himself alive or to pay taxes, he may withhold and refuse to spend as long as he pleases. The very fact that we live in a money-profits economy makes possible this kind of freedom of choice. Money has introduced the time-factor into business transactions. Under a system of

barter-economy, purchasing power can be withheld only in the form of commodities such as hides, measures of wheat, goats, tobacco, wool, tomahawks, and the like. The ability to withhold commodity-purchasing power is sharply limited so far as profit-making is concerned. Commodities spoil as money does not. Commodity-purchasing power involves handling costs which will eat into profits made by exchange in later markets. Commodity-purchasing power may depreciate on account of changing needs. Customs, fashions, weather, etc., are factors which do not affect money. In the main, bartering transactions are "spot" transactions. The man who uses the purchasing power of his bear-skin demands and receives at once the sack of corn which he desires. The transaction is complete and finished. In other words, under a system of barter-economy the repayment of goods for goods is not deferred, while under a system of money-economy money furnishes the means of deferring such repayment.

In the second place, the individual buyer who has money to spend has freedom of choice with respect to where he will spend his money. Once again this particular phase of the consumer's freedom of choice is largely made possible by the fact that we are living in a money-economy. The barter-trader is sharply limited in his geographical range of choice. In a money-economy

the individual who wishes to apply his purchasing power in a market thousands of miles from his home can easily do so by mail, telegraph or cable.

> Under a barter economy, a dealer could not ship skins from Chicago to Bordeaux and, before the skins had left the freight yards, obtain payment in gloves at Chicago. Yet this is typical of the transactions that money and bank credit have made every-day occurrences.[4]

Again, the individual buyer who has money to spend has freedom of choice with respect to what he will buy. He may use his money to buy a hat, a mechanical refrigerator, a factory, or a rare painting. The manufacturer of an electric refrigerator has to sell his product at some time or another. But the buyer may buy a gas refrigerator or a new car instead, as he chooses. Under a barter-economy commodity-purchasing power is far from mobile, and so is the available stock of goods. Sudden shifts in buying-fancy, now to substitutes, now to unrelated non-essentials, now back again to the products originally favored, are merely the results of the exercise of the buyer's option as to what he will buy.

Buying is no longer a matter of supplying needs alone, but a matter of choices freely exercised. Since 1900 the population of the United States has increased 40 per cent. The wealth

per capita is four times as great as it was in 1900. Bank deposits are over six times as great, and bank clearings are over four times as great. Unquestionably the consumption of consumers' goods has expanded at a much more rapid rate than has the population. In the nine years following the beginning of the World War there took place an increase of 25 per cent in the purchasing power of the American people.[5] Such an increase was wholly unprecedented and inevitably brought with it "substantial changes in consumption." In other words, at the present moment, the consumer's dollar is far from wholly mortgaged to the inescapable task of providing a bare existence.[6] There is a generous segment of the consumer's money-income which he can spend at his own option as to when he will buy, where he will buy, and what he will buy.

There is little question but that the consumer uses this freedom of choice quite remorselessly. Certainly, he injects into the plans and projects of large-scale business a dangerous and important element of uncertainty. In the case of consumer's goods, in particular, the refusal to buy, or the shift of purchasing power from one type of consumer's goods to another, keeps business management at its wits' end to see and follow the leads of the consumer's fancy. The producer or handler of consumer's goods can ill

afford to neglect or ignore the buyer's freedom of choice.

> Every day, in the United States, at least sixty million people, exercising this freedom, spend at least one hundred million dollars. Every day they buy the commodities and services of their choice, and no others. Do they choose to spend one seventh of their income on motor-cars and motor-car supplies? Very well, no one can stop them. Do they refuse to buy certain magazines and certain styles of shoes? Again, they do exactly as they please. They flock to *Abie's Irish Rose* after all the theatrical managers have decided that they will not. They buy *Main Street* eagerly until April; then—presto!—they stop buying *Main Street*. Women wear furs all summer or refuse to wear them at all, as suits their fancy. . . . All consumers, men as well as women, are free to-day to choose as illogically, as unwisely, as capriciously, as extravagantly, as they please. And to-morrow is a new day: what they will demand to-morrow nobody knows.[7]

The most common objection to this idea of freedom of choice is the idea expressed in the quotation from Stuart Chase at the beginning of this chapter—that this freedom of choice is restricted on every hand by all the beguiling arts of advertising and salesmanship. The assumed distortion of consumer's desires by advertising and personal salesmanship is the usual cry of the social reformer.[8] Unquestionably, the expression of consumer's choices is more a matter of habit, imitation and suggestion than reflec-

tive choice. Conscious of this well-established fact, business management spends large sums of money in efforts to stimulate demand and to direct it into profitable channels. Business management, moreover, has discovered that in general it is easier to appeal to the emotions than to the intelligence, and consequently many selling appeals are designed to influence the biological human being rather than some ideal mechanistic Televox.

Whatever may be the technique of modern advertising and salesmanship, the fact remains that both marketing forces are merely forces of influence and not of restriction. The consumer still exercises his freedom of choice. That choice may be unwise and illogical by classical economic standards, but it is nevertheless the consumer's individual choice. "No matter how many times he is urged to eat an apple a day to keep the doctor away, he is free to eat something else; no matter how many billboards point their arrows at him, he is not obliged to chew gum."[9] He will not eat "yeast for health" if he does not like its taste and does not care to drown it in a malted milk.

Moreover, persuasive marketing is only one of the innumerable factors which influence the consumer in his choices. Individual psychology provides the "mechanism by means of which choices arise and consumption takes place."

Social psychology, too, has its place. The popular habit of "keeping up with the Joneses," which has been so widely satirized in the comic strip, lays its hold upon all of us even while we laugh at it. Biological and environmental factors which we take very much as a matter of course play their parts in influencing choices. By and large, however, these forces are not restrictive. The consumers' freedom of choice still remains as a determinant of production.

Changes and modifications of living conditions all have their influence upon consumption, tho that influence is seldom purely restrictive of freedom of choice. For example, the average wage paid to domestic servants is to-day almost twice what it was in 1900. In addition the cost of such labor has increased by reason of the fact that domestic servants to-day demand very much more as to their "keep" and do less work than was formerly the case.[10] As a result of these changed conditions, the number of cooks alone decreased by over 150,000 between 1910 and 1920, and the total decrease in the number of domestic servants was 300,000. Again, the increase in apartment-house living has had its effect on consumption. The shift from private homes to apartment houses immediately affects purchasing habits through the reduction in storage space and a greater dependence upon readily prepared foods. The rapid extension in

the number of electrically-wired homes has turned increasing amounts of the money outlay into the treasuries of the makers and sellers of electric household appliances. The cheap automobile and paved roads have moved millions of farmers nearer to well-stored retail markets. The circulation of magazines, the motion picture, and the radio have spread the knowledge of new offerings and new ways to spend money into almost every home.[11] These influences and many more all condition the consumer's will to choose. Strictly speaking, however, none of these influences vitally restrict his freedom to choose among all the products that are offered to him.

Because of the freedom of choice which the customer enjoys, and because of a widely increased purchasing power, it is natural that queer congeries of questionable choices result, and that these are reflected back to the producer who is in search of a profit. Unquestionably, in recent years, the will to buy has enormously expanded in the realm of jimcracks and "non-essentials." Consequently the production of jimcracks and "non-essentials" has increased, a type of production which from the strict economic point of view may be considered a sheer superfluity. It may be quite all right to bemoan the fact that:

> We are deluged with things which we do not wear, which we lose, which go out of style,

> which make unwelcome presents for our friends, which disappear anyhow—fountain pens, cigar lighters, cheap jewelry, patent pencils, mouth washes, key rings, mah jong sets, automobile accessories—endless jiggers and doodads and contrivances.[12]

But we do need to remember both that we ourselves do not need to buy these things and that some one other than ourselves may want them and evidently does want them or they could not be produced and sold at a profit for long. The consumer in the mass is hard to judge. He is usually "outside our own circle." And so it is easy to believe that a large part of mankind "wearies itself in consuming things that it does not really want and vying with itself in vulgar ostentation and waste." [13]

One advertising expert has gone so far as to set up definite statements of what "Man the Consumer in the Mass" will and will not do. A glance at these two lists will show us the vagaries of human nature which appear to make for the lack of intelligence in a "freedom-of-choice" consumption. Mr. Kenneth Goode asserts that Man in the Mass:

1. Won't look far beyond his own self-interest.
2. Resents change and dislikes newness.
3. Forgets past and remembers inaccurately.
4. Won't fight *for* things when he can find something to fight *against*.

5. Dares not differ from the crowd unless certain his difference will be recognized as superiority.
6. Except in high emotion, won't exert himself beyond the line of least resistance.
7. Won't act, even in important matters, unless properly followed up.[14]

As opposed to this list of "won'ts," Mr. Goode sets up a list of "wills." He asserts that Man in the Mass:

1. Follows a habit until it hurts.
2. Accepts his beliefs ready-made and sticks to them till the cows come home.
3. Follows his leaders, eyes shut, mouth open; and stands by his friends even when he knows them.
4. Yields to suggestion when properly flattered.
5. Works hard to establish superiority in the eyes of his equals.
6. Finds his greatest interest in his own emotional "kicks."
7. Loves low prices and dislikes economy.
8. Glorifies the past and discounts the future.[15]

To understand the consumer and some of the effects of his capricious will to buy, we need to realize, first of all, that when any large body of consumers experience such an increase in earning power as has taken place in the United States during the past few years there is added a new and larger surplus for "non-essentials." Common sense as well as Engel's [16] laws of consumption will tell us that as income increases

the proportion of income spent for food decreases, the proportion of income spent for rent, clothing, fuel, and light remains for the most part unchanged, and the proportion of income spent for sundries increases.

In the second place, the buyer of consumer's goods is concerned with "value in use" and that value is the consumer's total attitude toward the goods. It is a serious mistake to assume that the consumer buys goods for their intrinsic properties alone or even in the main. The standards for the measurement of utility which are applied by the government in making purchases of accessory goods, or by the manufacturer in buying raw materials, are not used by the purchaser of consumer's goods.

> The consumer likes or dislikes, and analyses can be hanged. A Sargent portrait may not be intrinsically as good a likeness as a snap-shot photograph, but the consumer may feel that there is no comparison in their relative desirability; a bar of soap daintily wrapped may be no more cleansing than one gray with exposure, but perhaps the consumer may weigh the pleasure derived from appearance quite heavily in choosing between the two.[17]

The average consumer's will or decision to buy consumer's goods is not a matter of fundamental needs or of intrinsic qualities in the goods themselves, but rather a matter of a "purely subjective idea of desirability."

Finally, the family is still the dominant unit of organization for the consumption of consumer's goods. This fact is also something of an obstacle in the way of applying extraordinary intelligence to consumption. The consumer certainly furnishes little impetus for the progressive development of such sciences as psychology, anthropology, preventive medicine, public health, and nutrition, which might be of further assistance in furnishing basic data. The consumer not only fails to furnish impetus; he, or she, is also unconcerned with what has been discovered. Very, very few families want to live in a home which is a kind of laboratory for trying out new ideas. Whenever in this modern world a family tries to make something of the home, the tendency is to regard it as a sacred institution, to lean rather heavily upon the past for guidance. The tired business man wants his home to approximate the old family-farm homestead in the hills or the valleys, but with the addition of a radio and a car. The tired business man's wife either falls in with the same notion and becomes an old-fashioned wife, or leaves the home to the haphazard and exasperating management of domestic servants and finds a business position in the workaday world. The younger generation sets up a home in the most aristocratic apartment in the city's "best" section and makes one room serve for bridge, a quick change of clothes,

and a few hours' sleep in the beds that pull out of the wall. "Nobody, it seems, wants to stay in the home and be progressive inside its four walls." [18]

It is rather generally claimed that nine-tenths of all buying is done by the women of the household. It is clear that what food is used in the home is purchased by the housewife or servants under her direction. And so it is with the furniture and fixtures, and even the men-folks' cravats. She very largely influences the amount of money spent for shelter, recreation, and sundries.

The business man is usually trained for the job of making, handling, and selling goods. But the housewife is seldom trained in the technicalities of buying. She

> is not selected for her efficiency as a manager, is not dismissed for inefficiency, and has small chance of extending her sway over other households if she proves capable. She must buy so many different kinds of goods that she cannot become a good judge of qualities and prices, like the buyers for business houses. She is usually a manual laborer in several crafts, as well as a manager—a combination of functions not conducive to efficiency.[19]

This does not mean that the average housewife is less intelligent than the average business man, but simply that her job is more exacting, both because it is not so highly specialized and be-

cause adequate training in it is neither available nor considered necessary. The housewife cannot get the practical help from physiology and psychology, for example, that her husband can secure from physics and chemistry.

Moreover, the business man systematizes his planning on the basis of a money-profits accounting. The incentive of profits is consistently and continually before him. New methods which promise new or additional profits are seized upon and tried out at once, because the profits earned will depend to some extent on being just a step ahead of a competitor. The housewife, on the other hand, waits until many other housewives adopt the new method. The welfare of the household is not as effective an incentive. The dollar is a satisfactory unit for reckoning profits as well as costs, but not for expressing family welfare.[20] In other words, family welfare cannot be easily tested or displayed. It does not lend itself to accounting or to accurate measurement. The prospect of definite results and individual reward are not apparent, and consequently the motive force which must stimulate effort is decidedly weak.

If we turn our attention now, for a moment, to producer's goods used in making consumer's goods and producer's goods used in making other producer's goods, the consumer, in the sense of an individual or household, controls

demand in a lesser degree. In the case of this general type of commodity, business management and its technical advisers have a larger element of discretion. The demand for producer's goods, of course, depends upon the demand for consumer's goods in the long run, but the timing of business purchases of producer's goods is not rigidly bound by the timing of individual or household purchases of consumer's goods. The farther the process of buying is removed from retail counters, the less immediate control over production is exercised by the individual or household consumer.

Irrespective of the influence of the demand of the individual or household buyer of consumer's goods which reflects itself back to the demand for producer's goods, it is a fact that the demand of the immediate user of producer's goods exercises a rigid control over the maker of producer's goods. The manufacturer who buys raw materials, fabricating goods, accessory goods, and installation goods, is an exacting buyer, and his methods are as scientific as it is possible for expert purchasing agents to make them.

Broadly speaking, such a buyer attempts to use six methods in his purchasing, each one of which has a direct influence upon the maker of these producer's goods.

In the first place, the attempt is made to buy producer's goods at the "correct" time of

the market. Under uncontrolled conditions the heaviest purchasing by the average user of producer's goods would normally be done at the high points of the market, and the lightest purchasing at the bottom or near the bottom of the market. The scientific purchasing agent seeks to control this process and reverse it by making large purchases near the bottom of the market and small purchases near the top. To the extent that the individual purchasing agent achieves this aim he gives his company a competitive advantage over other companies which give this matter little attention. As more individual concerns adopt this practise, purchasing peaks tend to be leveled and the manufacturer of producer's goods is enabled to adopt a more even production schedule.

Again, the scientific purchasing agent attempts to buy at the correct price at the time the purchase is made. He does not accept the idea that competition always gives the proper purchase price. He knows that by studying the relative costs of raw materials used in the manufacture of such producer's goods as fabricating goods, accessory goods, and installation equipment; by considering the cost of labor involved, and by making a fair allowance for general expenses and a reasonable profit, he can in an increasing number of cases indicate to suppliers

that quotations are not correct and that price revisions are in order.

The standardization of materials and supplies is also practised by the scientific purchasing agent. Almost continually he is engaged in analyzing the items which he buys with respect to class, quantity, and exact qualities. He keeps in close touch with his concern's technical and research experts, and is guided by them in his purchases as their efforts discover or adapt materials and their uses. He joins a trade association, the National Association of Purchasing Agents, and subscribes to a campaign for the adoption of a Standard and Simplified Invoice Form and a National Standard Vender Catalog. All these efforts tend to enable the manufacturer of producer's goods to judge his markets with respect to kinds of goods desired with considerable accuracy and precision.

The scientific purchasing agent also attempts to achieve a centralization of buying which has as one of its corollaries buying in quantity. He tries to avoid breaking down his opportunities of quantity-buying by distributing too largely his requirements among several or many sources of supply. He knows that one or two contracts for large quantities of a specific item over a long period will result in better prices and services than a large number of small contracts for the same item. Consequently, he appreciates

and increasingly uses long-term contracts with his suppliers. This tendency enables the makers of these supplies, in turn, to apply a considerable amount of business judgment to their own problems of purchasing. They also find it possible to purchase materials in quantity and at the proper time of the market.

Finally, the buyer of producer's goods gives a good deal of thought and attention to the cost of bringing equipment, materials, and supplies from the point of production to the point of use. The modern purchasing agent attempts to formulate, roughly, at least, geographical zones of production which may be called upon to serve certain geographical zones of need. This practise tends to develop a new type of competition in that there is competition between zones of production rather than between individual producers. At the same time there is considerable opportunity for the reduction of freight rates.[21]

In spite of the less direct and immediate influence of the individual or household buyer of consumer's goods upon the production of producer's goods, that control always exists. It may be passive for a time, and then suddenly active. In an age of hand-to-mouth buying, overstocked retail shelves very quickly mean overstocked wholesale warehouses and a sharp and large reduction in the purchase of producer's goods. Then the maker of producer's goods is forced

either to accumulate dangerous inventories in order to keep his factory wheels turning, or to stop production for a costly period of time and readjust his equipment and methods to the problem of manufacturing other types of goods.

Thus, the individual and household consumer, with all his biological and psychological idiosyncrasies, is the final judge of production.

XI

THE RÔLE OF THE GOVERNMENT

THE first function of government is protection. The primary aim of the government is, or should be, to protect the group which is under its care from other groups that war upon it, to protect the group from the individuals in the group, and to protect the individuals from the group and each other.[1] Predatory doings must be inhibited. The second function of the government is the promotion of the general good, a function which in its extended meaning perhaps includes the first. It is used here, however, in the sense of the actual creation of conditions which are conducive to the best interests of society rather than in the sense of any determination and indication of what may or may not be done in the pursuit of self-interest. The third function of the government is the regulation of the specific modes of conduct of individuals who are similarly situated. This function aims to standardize and to indicate what must be done by stated parties in stated relationships with other parties. So considered, government may be defined as an institution which protects, promotes, and regulates the other institutions of the society which is under its political jurisdiction.[2]

So far as the form of our government is concerned, we are, of course, politically committed to what Disraeli stigmatized as "that fatal drollery called representative government." Under the prevailing representative system, our government struggles toward the protection, promotion, and regulation of the "general good" on the theory that the will of the majority is a working formula that in the long run will result in the "general good." Unfortunately, the widespread right to vote is indifferently and negligently used. The will of the minority too frequently prevails. While it may be the self-seeking will of a small minority, yet it is usually a cautious will. And it is cautious because of democracy. The minority may often assume with accuracy that there is no widespread and positive mass opinion on a particular problem.

> Yet slumbering power is there, in the ballots of the masses; and those who govern must be wary not to arouse the heavy sleeper in respect of those relatively few matters political that are within his interest and his comprehension. In theory the rule of the people is the driving force of the ship of state. In usual practise it is far more comparable to a mildly retarding head wind. The driving force is a thing of great complexity and some mystery operating in the deep, dark bowels of the ship.[3]

Many of our realistic critics of representative government are quite positive that in its larger

tasks democracy is doing a poor job. Too often these critics take little account of the amazing multiplication and the bewildering variety of democracy's problems. Hence they hurry the application of the adjective "poor," and fail to recognize the relative differences of capacity and control that exist in the whole sweep of governmental relationships to the problems of society.

One phase of the enlarging burden which rests upon our government has been brought about by the growing complexity of modern business and its increasing reliance upon the government. The question of the proper relationship between business and the government is an ever-present and troublesome problem. In our democratic laboratory we are experimenting with theories of relationship which will fit in with the aims of government and still preserve individual incentive. Some of our experiences of the past generation have been unfortunate. They have revealed the fact that too much governmental intrusion upon the affairs of business inevitably implies, especially in a democracy, "the most dangerous temptations to bureaucracy and demagogy."[4]

The whole problem of the relationship of government to business is not new, nor is it exclusively characteristic of our representative government. Most of the world's national governments have been wrestling with it for centuries.

How vital it is that government shall attempt intelligently to determine what it may do to stimulate business or to suppress and stifle it is shown by the experience of Russia.

> At the Geneva Conference in 1921, pleading for international help and pleading that their industries were prostrate, Russia made the official statement that this great agricultural country had sunk under government direction to 12 per cent. of agricultural implements production and 6 per cent. of plow production as compared with pre-war conditions; this, in a country equipped with coal, iron, oil, timber, and idle labor.[5]

In essence, an improper governmental relationship to business and industry succeeded in breaking down individual incentive and effort. The unsound projection of the governmental aim into the business of Russia has caused that great agricultural country to call upon the outside world for food to fight its famine twice since the armistice.

In our country, the control of government over the conduct of business has been rather largely limited to an attempt to maintain full and free competition and to maintain that competition on a high plane. In carrying out this general attempt the government, of course, relies upon laws or rules of conduct which it promulgates and enforces. In our nation, the foundation of law is the Constitution, which

delineates the structure and powers of the government as well as the rights, privileges, prerogatives and exemptions of both citizens and aliens. These fundamental guaranties and prescriptions may be "elaborated or given effect," but they may not be abrogated or abridged by statute.

The two main forms of law are common law and statute law. Common law began more than a thousand years ago in England, growing up out of the "usual practises" of the land. It has changed and expanded throughout the years and still prevails on a wide scale. Common law is sometimes called "judge-made law" or "court-made law," but it is essentially law that grows out of the customary practises of a people. The judges merely render decisions in accordance with these customs or practises.[6] Under agrarian and handicraft conditions "judge-made" law provided tolerably sufficient social control. But with the expansion of business and the increasing complexities of business relationships the system of common-law control became far from adequate. As a system, it is intensely individualistic. Under the rules, every individual is the guardian of his own rights and must suffer the consequences if he fails to assert his rights. Consequently, statute law became necessary.

Statute law supplements common law. It may bring together into one code various parts of

the common law, so that everyone may be clear with respect to the law. It may destroy an obsolete portion of the common law or it may lay down rules concerning a new problem on which common law has not had time to develop. The onward press of statute law has not usurped the entire realm of common law, but it has been the natural result of insistent social demands expressed through the government.

> The old law of private nuisance, for example, depending on suit by one aggrieved and proof of specific injury to him or his property, gave inadequate protection either to the individual or to the public. It had to be supplemented by the law of public nuisance. Merely to commit an act that might lead to or constitute this or that nuisance was made an offense. No proof of injury to anyone was necessary.[7]

In the highly developed business economy of the moment, statute laws are multiplying with perplexing rapidity. "Mass production is as characteristic of some legislative mills as it is of industrial factories." Business management as never before must be guided by expert legal advice. By means of statute law, the government has extended its efforts at social control through the whole framework and organization of modern business and its activities.

Moreover, the government has seemingly realized the impossibility of guiding and controlling

the intricate relationships of business by means of the courts and the law-makers alone. Common and statute law cannot be elaborated quickly enough to meet the speed and variety with which business relationships change. Individuals in society are really impotent when it comes to enforcing their legal rights against large-scale business enterprises. The courts are organized to settle controversies. They are remedial institutions and not preventive agencies. Consequently, the government has established many preventive agencies of mixed powers, legislative, executive, and judicial, through which it attempts to make more effective its social control of business enterprises and their operations.

This development of governmental control by law and by administrative agencies is highly significant in a number of respects.

> First, while individuals initiate some of the "cases" before these agencies, the agencies themselves, on the basis of their own fact-finding, initiate many others. Second, the persons or enterprises subject to control are put under the requirement to secure advance permission for many performances. Third, and most important, if litigation of rights ensues, the parties to the controversy are, at least in theory, appropriate parties. It is not the suit of a Lilliputian against a giant; it is a controversy between a giant and an agency of government acting in behalf of a horde of Lilliputians.[8]

Obviously, it would be impossible here to discuss any large number of the statute laws, local, State, and National, or to describe all the agencies through which government exercises control over modern business. All that can be done is to indicate some of the more important restrictive (protective), promotive, and regulative efforts of the government.

The restrictive activities of the government are essentially negative in character. They are concerned with prohibiting certain lines of conduct, with specifying what not to do. The prohibitions which the government sets up are intended to prevent "any person from depriving another person of the liberty and property rights conferred upon him by the Constitution." The anti-trust laws are statute laws which express this type of restrictive governmental control.

The first important Federal anti-trust law was the Sherman Anti-Trust Act of 1890. By their rapid growth, the "trusts" seemed destined to control the whole economic organization of the country. The idea of monopoly has always been repugnant to the American people, and the trusts were regarded as monopolistic and highly dangerous to the freedom of competition. Public opinion quickly demanded protective legislation, and the Sherman Act was passed. The two most important sections of the act are as follows:

SECTION 1. Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is hereby declared to be illegal. Every person who shall make any such contract or engage in any such combination or conspiracy, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding five thousand dollars, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

SECTION 2. Every person who shall monopolize, or attempt to monopolize, or combine or conspire to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding five thousand dollars, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

At first this drastic law had little effect. Few cases were started, and, except in very minor cases, the law was not used until 1904. In 1911 the Standard Oil Company was declared in "restraint of trade" and was ordered to dissolve. Shortly afterward the American Tobacco Company was also dissolved.

In 1914, the Clayton Act was passed with the purpose of defining more clearly the meaning of the Sherman Act. This new statutory legislation prohibits local price discrimination, tying

contracts, holding companies, and interlocking directorates. These practises are definitely declared to be acts of unfair competition.

In the same year, 1914, one of the government's most important agencies of control was established by the enactment of the Federal Trade Commission Act. The commission is composed of five members appointed by the President with the advice and consent of the Senate. The members hold office for seven years. The commission has wide powers of investigation either on its own initiative or on complaints brought to it by interested parties. It reports to Congress and submits legislative recommendations. It employs a number of investigators and examiners who look into the merits of complaints or initiate complaints. The commission states its charges in the complaint and requires the business enterprise which is under investigation to file an answer—to establish its innocence by evidence. If the commission's Court of Review decides that the complaint is valid, the commission usually issues an order to "cease and desist." In case the order is not obeyed, the commission applies to a Federal court for support. In a majority of instances the commission has been sustained by the court. This governmental agency is obviously a preventive agency of control rather than a punishing agency. It is charged with the task of prohibiting business

methods which are "characterized by deception, bad faith, fraud, or oppression, and methods regarded as against public policy because of dangerous tendency unduly to hinder competition or create monopoly."

During the year 1923, the commission considered fifty-eight complaints involving false and misleading advertising, thirty-one complaints involving resale-price maintenance, eleven complaints concerning the passing off of a competitor's name or goods, ten complaints with regard to price-fixing, eight complaints of misbranding, three complaints charging conspiracy to injure competition, three complaints with regard to disparagement of competitor's name or goods, and sixty-seven other charges ranging from coercion to combination to effect monopoly.[9] This variety of activity shows that the Federal Trade Commission is intimately concerned with the fairness or unfairness of business methodology.

The commission has also made many detailed investigations which have provided a store of information on business organization and practises. Among others it has published reports on the grain trade, including future-trading, meat-packing, book paper, news-print paper, flour milling and jobbing, sugar supply and prices, and wholesale marketing of food. Recent investigations have dealt with advertising agency

practise, the assembly of opinion on resale-price maintenance, and chain-store methodology.

It would be impossible to enumerate all the statutory legislation of a restrictive nature. Local, State, and Federal laws of this type exist by the hundreds. They are being added to continually and will grow in number until we work out an economic Eden, if that is possible.

The promotive efforts of the government are also many and varied. In a country as large and as busy as our own, there are many opportunities for the government to be of invaluable assistance to business. Problems there are a-plenty. Financial panics hung over our business heads for years. Epidemics of cattle diseases wipe out livestock growers. The boll-weevil ruins the cotton crop. The Japanese grub and blister rust destroy a forest of lumber. The Mediterranean fruit-fly works havoc with anticipated citrus profits. The lack of proper shipping facilities reduces our merchants to dependence upon foreign carriers. The shallow waters of the inland rivers retard the development of the hinterland. The inrushing flow of foreign-manufactured goods swamps our markets with cheap offerings. Such are just a few of the problems with which government may be concerned and toward which promotive measures may be directed.

The United States Department of Agriculture, with its eleven active bureaus, is an important figure in our government's promotive program. Statistical information on the condition of the markets and estimated production as well as weather forecasts are continually sent to the nation's farms. Information and advice in farm production and scientific animal husbandry are given to the farmer by technical experts. When the potatoes show signs of blight or when the hogs are sick, agricultural specialists pay the farmer a visit, determine the cause of the evils and aid in their eradication. When seed is short the government supplies it. When it is discovered that the Mediterranean fruit-fly is destroying the orange, lemon, and grapefruit crop of Florida and is spreading its ravages to the north and west, the government sets up a fund of $28,000,000 to fight the pest. For ten years, government tree specialists have been studying the chestnut blight in an attempt to save the few remaining chestnut trees. The government's war against the boll-weevil, costly and extensive as it is, continues to go forward.

The Department of Commerce keeps American business managements thoroughly posted on the condition of foreign markets. It aids them in foreign marketing methodology and keeps them advised of trade and investment opportunities. The Department of the Interior maintains the

Patent Office and the Bureau of Education. It conducts reclamation projects which require the expenditure of millions of dollars in making swampy, woody, and malaria-ridden land ready for habitation and cultivation.

This enumeration of promotive governmental services could be carried on almost indefinitely, but enough has already been said to indicate something of their number and variety.

Perhaps the most spectacular promotive efforts of our government have been in connection with the establishment of such agencies of control as the Federal Reserve System, the Shipping Board, the Tariff Commission, and the Federal Farm Board.

The Federal Reserve Act was passed in 1913, and the banks were opened in 1914. The act divided our country into twelve districts, each of which has a central bank called a Federal Reserve bank. The entire system is under the guidance of the Federal Reserve Board, which is appointed by the President. All national banks are required to be "member banks" in the system, and State banks and trust companies may join the system by complying with certain conditions. The stock of each Federal Reserve Bank is owned by the member banks in its district. The board of directors of each regional bank is composed of six directors elected by the member banks and three directors ap-

pointed by the Federal Reserve Board. None of the twelve Federal Reserve Banks are run for profit. After six-per-cent. dividends have been paid and conservative surpluses have been built up, any additional profits go to the Federal government. The Federal Reserve banks are called banker's banks, because they lend to and receive deposits from member banks. They do not deal with individuals. Member banks are required to keep definite reserves with their regional bank, thus forming a pool and mobilizing these reserves for effective transfer from one bank to another in times of crisis. Member banks are privileged to rediscount eligible commercial paper with the regional bank, or, in other words, may sell to the Federal Reserve Bank of the district commercial paper which they have purchased and on which they wish to obtain cash.

This act unquestionably provided a desirable elasticity to the nation's bank-credit resources. "In the opinion of most students of the question, it has thereby secured a steadier and more consistently uniform proportionality between goods and services currently produced or rendered and the purchasing power available to the market."[10] Moreover, since the system is not operated primarily to make profits, it should tend to grant credit more in terms of business welfare than would be possible under a system of more individualistic business banking.

The United States Shipping Board was authorized by an Act of September 7, 1916. Fundamentally a war measure, the Board was designed as a part of the administrative machinery to promote the development of an American merchant marine and to regulate foreign and domestic shipping. Under the direction of this board and the Emergency Fleet Corporation, the tonnage of American vessels in foreign trade increased from 2,191,000 tons in 1916 to 16,324,000 gross tons on June 30, 1920. After the war, because of what seems to be the lack of any definite governmental policy, the Shipping Board has been gradually passing the whole job of promotion over to private enterprise. Whether the benefits derived from this promotive effort of the government outweighed or even balanced the enormous expenditures which were involved is a moot question. It is cited here merely as an example of promotive effort. Essentially the whole program was a war measure.

Tariff legislation was first enacted in this country in 1789 as a promotive measure. Changes and amendments in this legislation have been the cause of bitter word-battles and scathing polemics ever since. The supporters of protective-tariff legislation present, in the main, the "revenue" argument, the "infant industries" argument, the "war" argument, and the "wages" argument. Customs returns are large

and easily collected. Infant industries must be assisted to develop to a point where they can compete with foreign competitors. A tariff hinders foreign trade and makes a country better prepared for war, because it is necessarily more nearly self-supporting. A tariff enables producers to keep prices up and consequently helps to make high wages possible. On the other hand, the opponents of protective-tariff legislation offer, in the main, the "balance of trade" argument, the "geographical specialization" argument, and the "equality" argument. Since exports and imports in the long run must be equal in value, the tariff is a limiting factor which will limit exports as well as imports. It is wise for nations to produce the things they are best fitted to produce and for them to exchange these things in foreign trade rather than to attempt to produce all things. The tariff benefits the manufacturer, but hurts other classes and is an act of special privilege.

Various tariff boards and commissions have functioned at one time or another in the interests of tariff revision by more "scientific" methods. The act of September 8, 1916, provided for a Tariff Commission of six members. Some of its powers and duties are as follows: to investigate matters relating to tariff administration; to study the fiscal and industrial effects of the operation of our tariff laws; to investigate

tariff regulations with foreign countries; to study the conditions of competition in foreign trade; to summon witnesses and otherwise to assemble information. Under the Fordney-McCumber Act of 1922 the flexible-tariff idea was introduced, and the President was given power to raise or lower rates by an amount not exceeding 50 per cent. upon recommendation of the Tariff Commission.

Of all the promotive projects of our government, the question of tariff legislation is the one which arouses the most rabid partizan approval or disapproval. Our experiences with tariff legislation, however, are summarized in the following statement without partizan bias and with careful regard for the facts:

> In general the tariff acts have been hastily ıd unscientifically drawn. With the exception of one or two instances it has been almost impossible to obtain a clear-cut decision from the electorate, because the tariff has been so entangled with other political issues. It has furthermore been impossible easily to determine at just what point, if at all, an industry ceased being "infant" and no longer needed protection. It is obvious likewise that in making tariffs the lobbies desiring protection were always stronger and more vocal than those opposed. Furthermore, the tariff commissions, however "scientific" they were supposed to be, somehow had a protectionist complexion under Republican administration and the opposite under Democratic. At

the same time, it is apparent that the nation, as the years have passed, has become more favorable to a high tariff."

The most recent large-scale promotive undertaking by the government is the establishment of the Federal Farm Board with ample powers and adequate money to work out an effective program of farm relief. The board is created primarily to work out a strong marketing policy and to assist the cooperative associations in becoming self-supporting and self-directing. This board is in the process of formation at this writing, so that exactly what its specific program will be cannot be indicated here.

It is unnecessary to mention any more of our government's promotive efforts on behalf of business, but it should be said that our city, county, and State governments are engaged in such efforts as well as the Federal government. The roads, bridges, and canals constructed by the government are examples of these promotive projects. The business of commerce, industry, and agriculture is the life-blood of our nation. It is certainly the province of our local, State, and Federal governments to keep this blood in good condition.

The regulative efforts of the government are essentially affirmative in character. They specify modes of conduct which must be adhered to by specified parties in specified relationships with

other parties. Prominent among the government's regulatory provisions are the Pure Food and Drugs legislation and the regulation of the common carriers engaged in interstate commerce.

Upton Sinclair's book *The Jungle* brought to the attention of the entire country the conditions existing in the packing houses. Commissions were appointed to investigate these and other industries in which foods and drugs were handled and packed. The reports of these commissions were little less than astounding. In one State alone ninety per cent. of the meat markets were discovered to be using chemical preservatives. Chipped beef was preserved with borates. Mushrooms were bleached by sulfates. Canned peas were put up in solutions containing copper salts. Butter was adulterated with margarines and preserved with formaldehyde. Over 150 patent preservatives were on the market and were guaranteed to keep meat, fish, and poultry fresh without ice. More "pure Vermont maple syrup" was sold than all of New England could produce. Patent-medicine "cure-alls" fed and flourished on the credulity of the ignorant. There appeared to be no limit "to the mendacity of the advertising, the viciousness of the formulæ, the baby-killing, the habit-forming, constitution-wrecking character" of the whole sweep of patent-medicine manufacture and distribution.[12] Soothing syrups contained opium. Cocain was

an important ingredient in catarrhal powders.

Legislation to check the sale of adulterated foods and drugs was introduced in Congress as early as 1902, but was repeatedly shelved. It took almost four years of exposure and agitation before the Pure Food and Drugs Act finally became the Federal law of the land. The act forbids "false and misleading" statements on labels or on the doctrinal matter which surrounds the package. It provides that eleven drugs or their derivatives "shall be stated on the label if they form any part of the ingredients of the package." These drugs are: alcohol, morphine, opium, cocain, heroin, alpha-eucain, beta-eucain, chloroform, cannabis indica, chloral hydrate, acetanilid. Under the efficient administration of the Bureau of Chemistry of the Department of Agriculture the evils existing in the manufacture and preservation of foods and drugs have been largely reduced.

An exceedingly important regulative agency or commission was established in 1887 by the Interstate Commerce Act. The Interstate Commerce Commission was created to inquire into the business of common carriers, to require testimony and attendance of witnesses, and in general to regulate interstate transportation. Early decisions of the Supreme Court limited the power of the commission, but the Hepburn Act of 1902 and the Mann-Elkins Act of 1910 re-

stored and extended its power. The commission may "determine and prescribe" just and reasonable maximum rates; it deals severely with discrimination, and it requires uniform methods of accounting. Its jurisdiction includes not only railroads, express and sleeping-car companies, and pipe lines, but telephone, telegraph, and cable companies. The word transportation is given a broad meaning and includes "all services in connection with the receipt, delivery, elevation, and transfer in transit, ventilation, refrigeration or icing, storage, and handling of property transported." The activities of the commission have been of inestimable value in establishing affirmative codes of conduct for the common carriers and in regulating the relations between these carriers and business enterprises on a basis of fair competition.

In addition to these two outstanding examples of governmental regulation, there are, of course, hundreds of other similar legislative provisions and regulatory agencies. Local and State laws also specify definite modes of business conduct. Child-labor laws, minimum-wage laws, workmen's compensation acts, industrial safety acts are only a few. State warehouse commissions and public utility commissions are governmental agencies charged with a regulatory purpose. The complete list is much too long to be reproduced here.

Finally, it should be remembered that the government itself is engaged in conducting some of the nation's most productive activities. The government owns an enormous amount of property, employs about nine per cent. of all wage- and salary-earners in our nation, and pays about eight per cent. of the current income of individuals.[13] Generally speaking, the productive services which the government assumes and performs are those services in which management for profit is thought impossible or incompatible with public welfare. They range from the management of the forests through a long list—the improvement of rivers and harbors, the reclamation of waste lands, the building of canals, the public defense and domestic order, the whole minting and monetary system, flood control, and the handling and distribution of the mails.

Broadly speaking, the purely restrictive efforts of the government intensify the conflict between social and private ends, for they protect the individual rights of liberty and property as set up in the Constitution. The promotive and regulative efforts of the government on the other hand tend to integrate the social and business aims, because they establish conditions which make it possible and necessary to make money by making goods.[14] The extent to which the government will assume productive responsibilities through government ownership and opera-

tion will undoubtedly depend upon the behavior of those business enterprises now conducting activities which are "affected with a public interest." So long as the public interest is well served under regulated private interest it is unlikely that the government will undertake any elaborate productive project which can be carried on by private capital. Abuse of the public interest alone brings about extensive and intensive regulation, and abuse alone will be responsible for any future expansion in the governmental ownership and operation of productive enterprises which are now being carried on by private business ownership and management.

XII

MANUFACTURING

THE typical business enterprise in our modern technology is rigorously scientific in its control of the manufacture of goods. The products of farming, logging and mining are seldom ready for consumption as they come from the basic producer. With such outstanding exceptions as fresh vegetables, fruits, nuts, eggs, and milk, almost every basic material must be changed in form before it is used. Vegetable and animal products, such as cotton, flax, wool, and hides have to be made into cloth, clothing, and shoes. Logs must be sawed, planed, cut, and joined together in various patterns. Oil must be cleaned and refined. Iron, copper, zinc, and lead rarely reach the "ultimate" consumer in the form of raw material. This process of changing the form of a raw material is called manufacturing. In an age of power-driven machinery, the technique of manufacturing is one of the most important of all business techniques. The direct influence of power and machinery, of course, has not been uniform throughout the whole spread of business activity. It has been of the greatest significance in manufacturing and transportation, and

of the least significance in agriculture and in the handling of goods in trade.

According to the *Census of Manufactures* of the United States Bureau of the Census, some 290,105 manufacturing establishments were in operation in this country in 1919, employing a total of 9,096,000 wage-earners. These establishments represent some 358 different manufacturing industries. To list these varied types of activities would require many pages and would prove to be a tiresome enumeration. Moreover, our concern is with the problems and techniques of manufacturing control. Accordingly, we need a convenient but less detailed type of manufacturing classification.

From the point of view of the problem of control, manufacturing industries may be divided into three general types: the progressive or continuous-flow type, the synthetic or repetitive-process assembling type, and the non-repetitive process type. This classification, of course, is more useful than complete. Every manufacturing enterprise will not fall accurately into one of these classifications, because an individual enterprise may involve more than one type of process. Nevertheless, the technique of manufacturing control can best be understood by directing our attention to this classification.

The progressive or continuous-flow type of manufacture exists wherever the raw material

which is brought into the plant is worked or processed in successive stages until it emerges as a finished product. This method of manufacture is perhaps the simplest of all. It is the only feasible method to use when the materials which are to be worked lose none of their essential elements in the fabricating and gain none of the essential elements of another product. The changes that take place are only changes in the chemical or physical properties of the raw material. Our paper-mills are good examples. Spruce logs are taken in at the genesis of the process, are stripped, cut, pulverized, bleached, rolled and recut, and finally emerge in the storeroom as ton rolls of newsprint. Stamp-mills also furnish an illustration of this process. Ore is brought into the plant and passed through the rough-crushing rolls. Next, it is taken to the stamps and the concentrators, where the light particles of rock are removed. It then passes to the grinding pans, where it is reduced in fineness and is then sent on to the clean-up pans to settle. The pulverized pieces of rock ascend to the top and are removed. Finally, the refined ore is poured into retorts and cast into ingots. Other industries employing this type of manufacture use materials which are combined in the processing. The combining of clay and limestone in cement factories is an illustration. The outstanding characteristic of this type of manufacture is

that the materials flow on steadily from one department to the next. There is no doubling back to the same department for retreatment. Each process room sees the material but once.

The second type of manufacturing process, the repetitive or synthetic, presents a different situation. In this process, varied parts are brought together and assembled into units which are turned out perhaps by the thousands. The same work is done again and again, over and over. The parts which are combined to form one unit may be purchased from other plants or manufactured in the factory. The Ford Motor-Car Company illustrates the process. Thousands of parts which are manufactured in the various specialized plants are brought to the assembly plant, where they are added together until a car is the result. There are numerous subassembly rooms in which the parts of the steering gear or the rear axle, for example, are put together. But the compound units from each of these subassembly rooms are added together in the main assembly room. Most industries engaged in manufacturing machines fit into this category. Their raw material consists of parts. Their work is the assembly of these parts into a lathe, a telephone, an electric fan, or whatever finished commodity they furnish to the market.

As the name indicates, the non-repetitive type of manufacturing is carried on in those indus-

tries where the same article is rarely turned out more than once or a few times. Different work is done at different times. The amount of work, the nature of work, and the system of processing is varied. Manufacturing plants that turn out products only on order are examples. In the shipbuilding industry, this process obtains. Each ship is constructed on order and according to the specifications laid down by the purchasing company. One may be a 20,000-ton ship and another a 5,000-ton ship. One may be constructed for coastwise service and another for transoceanic trade. The amounts and kinds of raw material needed vary from ship to ship. Repair shops are also examples of this type of manufacturing. The machines and tools received for repair differ greatly. No two jobs may be of the same nature. Boiler factories and furnace factories are also in this category. Unlike the possible practise of the two preceding types, the non-repetitive process industry does not use a continuous and similar amount and kind of raw materials or parts. The amounts and kinds which may be purchased must be governed by the type of order secured.

While these are the principal types of manufacturing processes, it does not follow that every factory or every industry can be neatly and exclusively fitted into any one of these classifications. Many establishments carry on both the

repetitive and non-repetitive processes. Some carry on the repetitive and the synthetic assembly processes. Many, of course, turn out a diversified group of products. Moreover, some plants are equipped mainly with the idea of versatility, with the end of flexibility in mind.

Now, the principal technical problems with which any manufacturer has to cope are five in number. They have to do with design, equipment, materials, operation, and control.

In the province of design, both the product and the plant which produces it are involved. The size and shape of the factory building, the type of machine construction, as well as the substance, size and shape of the finished product, must be carefully planned. Standard designs must be set up so far as is possible both for the unit product and for each element of the whole in the case of the assembled product.

The necessity for standardized machines and tools and for standardized machine and tool conditions should be obvious. Equipment must be accurately provided and carefully kept. The factory building, too, must be included in the term "equipment" as well as the power plant. Machines, tools, power plants, and factory buildings must not be allowed to deteriorate and must be controlled in the interests of efficiency and economy.

Materials, too, must also be controlled and

standardized so far as possible as a corollary of standardization of the product and its parts. Whether the materials are manufactured in the plant or purchased from the outside, they must be available in the right quantities, in the right qualities, and at the right times.

Manufacturing operations are carried on by workers and machines, by workers and tools, and by workers and chemical agents. Much manual labor may be involved or little. Whatever the situation, the problem of controlling the worker as he acts in conjunction with the processing instrument is an important problem. Methods of work need to be standardized in the performance of a sequence of operations, but need not be pushed too far down into the performance of a detail operation.

The whole technique of design, equipment, materials, and operations has to be studied, planned, directed, and checked (watched). All the foregoing manufacturing elements must be controlled in the interest of efficient and economical production. This control may be accomplished in different ways in different industries and may necessarily stress one element more than another. Nevertheless, it must be effected.

The proper coordination of design, equipment, materials, operations, and control constitutes the work of the factory production department. All these factors must be so coordinated as to re-

sult in the manufacture of the finished goods with a minimum expenditure of labor, power, and materials, and with the least possible wear and tear on the machines and tools.

The organization of the production department for the purpose of effecting such a coordination is exceedingly important. A system of relationships must be set up among the things to be done, the means of doing the things to be done, and the doing persons.[1] Of necessity, the types of organization used in the production departments of different industries will be somewhat varied. There appears to be little reason, however, for the amount of variation which sometimes exists. Ten factories of approximately the same size which are engaged in the manufacture of the same types of products should not require ten sharply-differentiated and individualistic types of organization. Ten such systems can hardly be of equal value.

The organization of the production department should be a matter of careful study and continuing experiment. After its initial set-up, changes may be necessary from time to time until maximum efficiency is reached. The forming of an organization is, in part, a process of analyzing purpose, means of achieving the purpose, and responsibilities to be assumed by persons in utilizing the means, in an effort to discover and delineate the system of relationships inherent in

the enterprise.[2] It is, in part, a process of continued study, experiment, and test in an effort to improve the original discovery.

The oldest type of organization for manufacturing is the "military," "line," "fractional," or "numerical" type. This kind of organization is as old as the factory itself. Under such a system, workmen report to a companion worker called a foreman. The foremen report to the factory superintendent, who, in turn, reports to the general manager. When a certain task must be performed, the general manager issues orders to the superintendent, who calls in his foremen or personally repeats the order to each foreman, sometimes subdividing the work among different groups. The foremen then carry the orders to their respective groups of workers. This "military" or "line" type of organization provides an excellent system for the giving of orders and for the fixing of responsibility. However, it is not adapted to an economical specialization of labor. As business grows, factory superintendents and foremen fall short of the all-around knowledge, skill, and training which are necessary.

> Hiring men, teaching them, settling disputes, repairing machinery, ordering material, planning the current work—these are a few of the duties that may require the foreman's attention, all at the same time, and as Sir Boyle

Boche observed, "No man can be in two places at once, barrin' he's a bird."[3]

The pure "military" type of organization has no place for such experts as engineers, chemists, research workers, etc., and such experts become increasingly necessary. Consequently the "military" type is soon modified.

The functional type of organization is the outgrowth of the "scientific management" movement. While most types of organization are functional in their broad aspects, the term "functional organization" involves the distribution of tasks in such a way as to give each worker and supervisor as few distinct and separate duties as possible. Duties are assigned to those who are especially fitted to perform them. Instead of each worker being responsible to one foreman he may work under several foremen at the same time.[4] Each functional foreman directs that portion of the worker's task which he is trained and adapted to direct. The Taylor system, for example, sets up eight functional foremen as follows: the route clerk, the instruction-card man, the gang boss, the speed boss, the inspector, the time-and-cost clerk, the repair boss, and the disciplinarian. These functionalized foremen report to the engineer, the superintendent, and the chemist, all of whom, in turn, report to the general manager. The advantages of the functional type of organization lie in the

efficient methodology that can be developed and the maximum use of specialized knowledge. The disadvantages are a tendency to overspecialize, the difficulty of coordinating the many separate functions, and the difficulty of centering responsibilities and handling matters of discipline.[5]

The line-and-staff type of organization is a combination of what seem to be the best features of the line and the functional types. In this system of organization, authority flows from the top to the bottom as in the line type. Duties and responsibilities are definitely fixed so that discipline is insured.[6] In addition to the regular line officers, however, there is a staff of specialized experts. These experts study and work out the problems relative to the performance of the activities with which they are concerned, no matter where these activities must take place in the business enterprise. The recommendations and directions of the staff officers are considered and adopted or rejected by the line officers, who carry the adopted recommendations and directions down to the worker. The staff or service officers, who are in charge of such divisions as power and maintenance, inspection, and production engineering, assist and support the line or operating division. Each staff expert works in his own specified field and does his part in relieving the line or operating officers so that they are free to devote all of their time and

efforts to their particular function, the actual making of goods.[7]

Generally speaking, the line-and-staff type is the favored type of organization. It seems to offer the greatest possibilities and the best provision for planning, performance, service, and study. In the customary organization of the manufacturing department, the Director of Manufacturing heads up the Operating Division (Line), the Power and Plant Division (Staff), the Inspection Division (Staff), and the Production Engineering Division (Staff).

The Operating Division is in charge of a General Superintendent or Production Manager. It is concerned with the actual making or fabricating of the product. It will be divided into as many sectional units or "shops" as the work of the factory makes necessary. There may be a forge, a machine shop, a paint shop, an assembly room, and so on. A foreman is usually in charge of and responsible for the work of a shop or sectional unit.

The Power and Plant Division is usually in charge of the Works Engineer. This division is responsible for furnishing to the shops an adequate and constant supply of steam, electricity, gas, compressed air, and water. It also performs those services which may be necessary to maintain the machinery, equipment, building and grounds in such condition as will permit the

plant to be operated at the highest practical point of efficiency.[8] Machinery and equipment must be frequently inspected, repairs must be quickly and effectively made, and repair parts as well as tools to use in making repairs must be kept in stock.

The Inspection Division is usually in charge of the Chief Inspector. This division is responsible for the inspection of all materials and parts and of all work in process. It must see to it that materials and parts are up to standard and that the necessary accuracy of all operations on goods in process is maintained.

The Production Engineering Division is usually in charge of the Production Engineer. This division is responsible for planning and for study. It has charge of the production research, time-study work, motion study, standardization, and all efficiency investigations. It generally has charge of the various storerooms for raw material, work in process, finished parts, and tools. It designs, tests, drafts, and estimates. Finally, it schedules, dispatches, issues work orders and move tickets, and keeps the production records.

The organization of the manufacturing department is used by management in the interests of efficient, systematic, positive, and coordinated application of the available effort. The solution of the whole problem of production control is neither easy nor simple. Consequently,

management finds it necessary to develop and use certain additional methods or devices, ranging from the use of a "differential rate" to the use of a time-clock.

These special control-devices which are used by management throughout the organization of the manufacturing department readily fall into two groups. They are commonly listed as: communicating aids, and measuring aids.

In the first group are such devices as internal telephone systems, instruction cards, move tickets, and so on. The purpose of these devices is to keep the management in communication with the workers. By means of them the workers learn the wishes of the management.

In the second group are the general accounting records, time studies, motion studies, tests of raw materials and finished production, inspection reports, cost accounting, and budgeting. The purpose of these devices is to check and test the accomplishments of the department's operation and thereby to provide a factual basis of control. Of all these measuring devices, cost accounting and budgeting are perhaps the most important. They should be discussed in brief.

The total costs in any business enterprise are made up of two items, the prime or direct or variable costs, and the supplementary or indirect or overhead or constant costs. One writer states the situation as follows:

> The production cost is made up of direct costs plus the indirect costs. In addition to this production cost there is expense connected with selling and general administration, which is, of course, one kind of overhead cost. The production cost plus the selling and general administrative cost gives the total cost of making the goods. The difference between this total cost and the selling price is the profit.'

In the factory, the direct costs are those elements of cost which, entering into and forming a part of a product, can be charged directly to the product. In a shoe factory, for instance, the direct costs are the costs of leather, thread, cotton lining, nails, and the wages of the workmen who cut, sew, and nail. The first group is called the direct material cost and the second the direct labor cost. Obviously, these are variable costs. Their total is the result of the number of pairs of shoes which are manufactured, because each pair requires an expense for materials and for wages.

The indirect costs are those costs which cannot be directly charged to the product. Like the direct costs, they are divided into material and labor groups. Indirect material costs are charges made for materials which are necessarily used in the manufacturing process but which do not make up a component element of the finished product. Oil, supplies, scrap materials, and small tools are examples. The indirect labor costs are

the wages paid for supervision or foremanship, superintendence, repair workers, cleaners, and so on. But there is still another group of indirect costs, usually handled under the caption of "Indirect Expenses." Rent, insurance, taxes, interest, depreciation, maintenance, power, light, heat, over, short, and damage, and so on, are examples of indirect costs. It is not difficult to see that a very large element of indirect costs must be present in every factory where machines are largely used. Nor is it hard to understand that these indirect costs do not change greatly when changes occur in the volume of business. They are often called constant costs.[10]

The advantages of keeping a cost-record system are many. It prevents uncalled-for expenses or "leaks." As soon as costs are incurred, they show themselves in the records. They locate themselves, and wiping them out in future operations is simplified. When the market price of a commodity sharply declines, management knows from its cost figures whether or not it can continue to manufacture that particular product. The records show up the profitable and unprofitable items in the product line. They also gage the efficiency of superintendence and supervision. Thus the prime object of cost accounting is "to provide data which will facilitate control, data which will bring out weaknesses and failure in operation and give the executive

the information he needs in planning for the reductions of costs and an increase in operating efficiency." [11]

Budgets are also extremely important measuring aids, which management may use in controlling manufacture. In essence, budgets are merely devices of economic foresight, estimates of income and outgo for a coming period based upon records of past experience, present business conditions, and probable future trends.

The expenses of the factory are met by the money which is obtained from the sale of the product. Consequently, the sales budget is the starting point in any program of budgetary control. The sales department draws up its estimate of the amounts, qualities, and types of product that it can sell during the coming period. This budget may then be examined in the light of the factory capacity. After past sales records, present business conditions, probable future trends, and plant capacity are carefully considered, the sales requirements may be decided upon.

With the sales requirements as a guide, management next proceeds to consider the matter of manufacture from the point of view of having the goods ready for delivery when they are sold. It is necessary to turn out a certain number of finished goods each day. Moreover, reserves of finished goods must be made available in the

storerooms to guard against the unevenness of sales from day to day. To keep the factory producing from day to day and to insure ample reserves in the storeroom, the production department plans a schedule which is commonly known as the "finished goods schedule." Next, the materials budget is drawn up. The types and amounts of each item of raw material needed to produce the specified number of finished goods and the time when these items will be needed are included in this schedule. These estimates of materials required are handed over to the purchasing department so that it may consider inventories on hand and resulting needs in terms of market prices and trends of market prices. The labor budget must then be prepared and careful estimates must be made of the number and kind of workers required to produce the quantity of goods called for in the finished goods schedule. Now, labor cannot be piled up in storerooms in reserve amounts nor can it be purchased on a moment's notice. Consequently, the personnel group will necessarily consider the cost of hiring and training, the practicability of securing additional amounts of labor at definite times, and the possibilities of shifting labor from slack departments to busy ones. The overhead or indirect costs must also be budgeted. Supplies, tools, light, heat, power, rent, insurance, and so on, have to be carefully estimated. Finally, the

expense and financial budgets may be drawn up. Just as the production budgets depend upon the sales budgets, so does the financial budget depend upon all the others. All the budgets are interdependent.

Obviously, a budget is a tool and is valueless unless it is effectively used. In itself, a budget does not control. It is merely a measuring tool which management may use. Generally speaking, an effective use depends upon the following essentials: the careful statement of plans of each department for a given budget period, with estimates of probable accomplishments and expenditures; a coordination of department estimates in a well-balanced program under which the company can operate as a unit, and a check of actual performance against estimates to see whether or not each department is living up to its estimated accomplishments and within its estimated expenditures. When these essentials are carried out much can be accomplished in the way of executive control.

Through its organization of the manufacturing department and by its use of communicating and measuring aids, management attacks the problem of production control. Naturally, the specific problems of control which are most important will vary from industry to industry and from factory to factory. Emphasis will need to be placed on particular phases of control accord-

ing to the nature of the factory and its work. If we refer back to the three general types of manufacturing which were listed at the outset of this chapter, we shall be able to get something of a picture of the varying phases of control which are important.

In the continuous-flow type of manufacturing establishment, the control of raw materials is exceedingly vital and important. The question of whether or not the raw material which is used is as good or as cheap as it should be is an eternal question. On the side of technical processing, the question of whether or not a better article can be fabricated at the same cost is always present. The problem has its answer in more or less continual study of machines, processes, and workers. Then, too, there is the important problem of controlling by-products. If wastes can be made into by-products and if markets can be found for these by-products, total costs can be considerably reduced by the profits from the sale of the by-products.

The continuous-flow industries furnish many examples of these problems of control. In the manufacture of paint, turpentine was an important raw material. The steady rise in the price of turpentine made its use almost prohibitive in terms of direct material costs. Consequently, a substitute was found which was cheaper and which served its raw-material purpose as well.

In the linen industry, the process of fabricating flax was so slow and expensive that linens could not be sold at prices which made possible their frequent use. Here, the process was improved, the price of the finished product reduced, and the market expanded. The oil industry presents one of the most notable examples of the profitable utilization of what at one time were regarded as waste elements. Uses have been discovered for almost every element contained in crude oil.

In the repetitive type of manufacturing, these same problems of control with respect to raw materials, processes, and waste products also are present in important degree. Other problems, however, are also vital. Matters of layout, planning, and dispatching are of considerable concern in this type of industry because of their influence upon costs. The plant must be so laid out and the equipment so placed that the raw materials can be moved without duplication of effort. Any expansion of production with its coincident installation of new machines will recreate this problem again and again. Materials must be routed to appear in the right places at the right times. Internal transportation systems must be scientifically devised and communication aids must be freely used.

The non-repetitive type of manufacturing also has its special problems of control. In this type

of industry the control of workmen, foremen, and superintendents is especially important. In the former type, the repetitive process industry, the amount of manual labor can be minimized. Machines and equipment perform most of the work, and since their processes are the same from day to day, the problem of control is not a baffling one. But in the non-repetitive industry the same work is seldom repeated from day to day. Here it is impossible to transfer the skill of the worker to the machine to the same extent. Hence the hiring, training, and supervising of men of initiative, judgment, and skill constitute an important problem of control.

Such is the range of special problems of control in the three most important types of manufacturing industry.

One more group of technical factors remains to be considered, the so-called physical elements of manufacture. These elements have been touched upon in the preceding discussion, but they need to be grouped and then considered as individual factors. The physical elements of manufacture are: plant location, layout, building, heating and ventilation, lighting, fire protection, and power. Frequently, manufacturers give too much attention to these physical factors to the detriment of organization and the development of the aids to effective production control. Certainly, any such emphasis is misplaced, for

these elements are merely the factors which facilitate the manufacture of the finished product. They are of great importance, of course, but they should not be glorified out of proportion to other factors.

Very often the geographical location of a plant has an important bearing upon the probable success of the business enterprise of which the plant itself forms a part. Personal preferences or whims have no place in the determination of plant locations. If factories are to be operated in the interests of stockholders, their location must be decided upon after careful consideration of economic factors.

One of these economic factors is the proximity of possible locations to the sources of raw materials. If a plant can be located at or near the point of production of the raw materials which will be used, great savings in transportation costs can be effected. For this reason, paper mills have often been located close to the forests or on rivers along the currents of which fallen logs can be floated. Likewise, blast furnaces are often located near the iron-ore region.

Just as proximity to the source of raw materials may represent transportation savings, so, too, does the proximity of possible locations to the markets. In and about most of our large cities are many manufacturing plants whose locations have been determined by the factor of

their nearness to the markets. In Detroit, for example, there are many plants which manufacture automobile accessories. They have located there primarily because the Detroit automobile factories buy all their accessory products. They believe that it is more economical to transport raw materials and parts than to transport finished products, in their cases, at least.

Another factor is proximity to power. In Norway, for instance, the aluminum factories are located far from their ores and their markets. But they are established on flowing streams which furnish them with power. Similarly, many steel and iron mills are located in the coal regions because it appears to be more economical to transport hundreds of tons of ore than to transport hundreds or thousands of tons of coal. Ore has a greater inherent value in relation to its bulk. In this connection, it should be said that the development of electricity has greatly facilitated the transmission of power. In the future, therefore, this factor may not assume so much importance in choosing a location for the factory.

Manufacturing establishments cannot be operated without workers, so that the factor of proximity to labor supply may be significant. In some instances locations which are near raw-material regions or power sites cannot be selected because of an insufficient labor supply.

Lack of an improved community which can satisfy the ordinary human wants may mean great difficulty in holding employees to their jobs. Any factory that needs a fluctuating supply of labor must give this factor careful weighting in choosing a location.

The question of location should be solved by choosing the place which will provide the widest margin beween total costs and total revenues for the particular industry. Every factor must be considered. Locations should not be chosen to save on one factor alone. There is too much opportunity to lose on the others. All must be evaluated and weighted. Moreover, even after a location has been chosen and used, periodic studies of the subject may be the part of business acumen, particularly when the established location is in a growing community.

The second physical element of manufacture is layout, the arrangement and set-up of the equipment and the buildings. Layout is determined very largely by the kind and amount of product to be manufactured, the processes required in the manufacture of such products, and the movement of material from one process and operation to another. Other factors, however, are also important and must be taken into account. Such matters as the special requirements of certain departments, the number of machines and their grouping, the auxiliary equipment and

its relative position to the machine it serves, the space required for aisles and temporary storage, the space needed for service centers, space for storeroom and finished goods awaiting shipment, the necessity for railroad sidings, any restrictions of the plant site, and provision for future expansion.

The average steel plant furnishes a good illustration of effective layout. Blast furnaces are constructed at short distances from railroad sidings or river docks. The intermediate space is used for the storage of ore. Next to the blast furnaces are placed the open-hearth furnaces. The pig-iron can easily be transported from the blast furnaces to the open-hearth furnaces, from which it emerges as steel. Close by the hearth furnaces are the soaking pits. Just beyond, at equal distances, are the various mill buildings through which the steel is passed to be processed. One mill may turn out plates, another may make axles, another may manufacture rails, and so on.

The test of layout is usefulness and simplicity. Complicated layouts are costly. Simplicity will bring with it directness of effort, reduction of cost, and ease of operation and control.

The factory buildings are also important physical factors which are closely intertwined with matters of layout. Building depends upon layout and layout depends upon building. They are not totally unrelated subjects that can be disposed

of irrespective of one another. In general, it is wise to plan the entire layout first and then consider the construction of the buildings around the machines and equipment, as it were. Naturally, this procedure cannot be followed when a factory building is already on hand and must be used. It is impossible where and when machinery has to be accommodated to the size, shape, and general structure of an old building. Theoretically, however, the building factor should be considered little more than as housing for the necessary layout of machinery and equipment.

Factory buildings may be of many types, single-story, multi-story, saw-tooth-roof buildings, single-story with mezzanine floors in side bays, round, oblong, square, winged, and so on. Each type has its advantages for certain kinds of processing. When these advantages are evaluated in connection with cost of construction and cost of upkeep, decisions as to construction may be made.

A single-story building, for example, is desirable where heavy materials and machinery are used. Heavy floor loads in a multi-story type of building necessitate costly construction. Moreover, the handling of heavy materials from floor to floor involves expensive equipment and labor. Thus, plants which manufacture mining machinery, steam engines, and the like, are almost

always single-story plants. Multi-story buildings are practical where light materials and machinery can be used, and are economical in cities where land values are high. In a hat-making factory, for instance, the raw materials may be sent to the top floor in elevators, and then routed down after being processed to some extent on each floor, until the ground floor is reached and a finished product is ready for shipment. Again, in those cases in which a number of products are made, one floor may be set aside for the fabrication of one product. If the finished product is the result of assembling different materials, each or some of which have to be processed, a single-story building constructed in wing formation may be desirable. The finished product may make use of processed brass, wood, steel, glass, and rubber. One wing may be set aside for the processing of each material and the finished product of each wing may be turned out at the end of the building which joins the main structure or assembly floor.

The actual materials of construction used in erecting factory buildings depend in part upon costs of erection, costs of upkeep, fire hazards, legal requirements of particular districts, and so on. "Reinforced concrete and steel-frame construction are rapidly supplanting the old wood and brick mill-construction types, as they have a relatively low cost of construction, can be

made fireproof, and permit of the greater part of the wall space being given over to window space."[12] Certainly, due consideration must be given to various possibilities of construction, for the cost of the plant is a large item in overhead charges. The lack of sufficient analysis of the relation between the plant and subsequent profits to be made may result in the erection of an unnecessarily excellent plant which will bring about such prohibitive operating burdens as to wipe out all profits.

The factor of heating and ventilation is also important, altho it has been so recognized only within the last generation. In the early days of the factory system, employees worked in excessive heat, and breathed air poisoned by fumes, gases, and dusts. When it finally became apparent that such conditions lowered the efficiency of the workers and even shortened their working life, this problem began to be attacked with vigor.

Heating systems are either direct or indirect. The direct system is the most common. Steam is utilized and the pipes and radiators are placed along the outside walls. Where the factory generates steam power, steam for heating may be taken from the power boilers and reduced to the pressure required in the heating system, or exhaust steam from the steam engine or turbine may be utilized. The disadvantages of the direct

system lie in the fact that the hot air rises, cools rapidly as it comes in contact with the walls and windows, and "finally rests as a layer of warm air next to the ceiling." Consequently, the floors may be cold while the air is hot up under the ceiling or roof. Furthermore, valuable space near the windows must be taken up with pipes and radiators. This space may be desirable as work space for operations which require natural light. The indirect system of heating was designed to eliminate these disadvantages. In this system an electrically-driven or engine-driven fan forces steam or engine exhaust through heating units and distributes it through ducts to the rooms which are to be heated, the outlets being located at desired points.

An elaboration of this indirect or blower system makes it possible to control the humidity, temperature, and ventilation. Special blower installations can provide for dust collection, for removing hot gases from heat-treating departments or smoke from enameling ovens, for absorbing vapors in packing houses, and so on. Effective temperature control and air-conditioning prevents the spread of disease and vitalizes the worker. Headaches, bleary eyes, and depression disappear, so that the worker becomes more efficient and willing. Consequently, this whole subject of heating and ventilation is worth a deal of careful attention.

While effective heating and ventilating systems assist in keeping up the worker's efficiency, they are not the only important factors which are necessary to the same purpose. A provision for adequate lighting, natural and artificial, must be planned and executed. Modern factory construction has been experimenting for some time with ways and means of providing large amounts of natural light. Factory walls are now made of glass, in many instances, instead of brick or concrete. Very often the window panes are of fused quartz, so that the beneficial ultra-violet rays of the sun may penetrate into the factory. Processes that require an unusual amount of natural light are housed in single-story buildings with saw-tooth roofs of glass, or on the top floors of multi-story buildings where glass skylights can be used.

Because the intensity of natural light varies with the seasons, the weather, and the time of day, daylight lighting must be supplemented by artificial lighting. Adequate amounts of light must be provided, and imperfect diffusion with excessive brightness and contrasting shadows must be avoided. Again, different degrees of artificial illumination must be furnished to special departments and special process centers. In a leather manufacturing plant, for example, the finishing department will require twice the intensity of illumination that is necessary in the

tanning department. Artificial lighting systems, of course, have been improved immeasurably during the past few years, and technical advice is available at small cost or no cost at all in the lighting bureaus of the Power and Light Public Utility Companies. The installation of a system that is technically sound, that coordinates with the use of reflecting colors on walls and ceilings, and that involves systematic cleaning of bulbs, walls, and windows, will solve this problem.

Another important physical factor which needs attention is the problem of fire hazards. Most city or suburban locations will be governed by city or State fire legislation, but even where such restrictions do not obtain, it is very much worth while for management to give this matter plenty of attention. A fire-proof building is often little more expensive than a non-fire-proof building. In fact, the difference in fire insurance rates may offset the higher costs in a very few years. Fire doors should be installed to enable small blazes to be shut off and stamped out before the sweep of the flames spreads over large areas. Plenty of exits should be provided and conveniently located for the safety of employees in case of a sudden explosion and resultant fire. Hoses, chemical extinguishers, and other forms of fire-fighting apparatus should be distributed throughout the plant and periodically inspected. Sprinkler systems may be installed on the ceil-

ings. Fire drills should be frequent and should involve specific tasks and responsibilities on the part of the workers. A detailed fire prevention program will largely eliminate the possibilities of catastrophe and temporary shut-downs of the whole plant or of a particular department.

Power is the final important physical factor. From the point of view of mechanics it is vitally important. The more a factory is able to get away from manual labor by the substitution of machine work, the more vital the matter of power becomes. All sorts of problems are involved in the provision of adequate and economical power. First, there is the question of type of power. Water power may be used as the direct power or as a component element in hydroelectric generation. Steam which is produced by coal or by fuel oil or gas boilers may be decided upon. Internal-combustion gasoline engines may be satisfactory for some processes. Purchased electric power may be the solution. In making a decision here, management needs to remember that the power needs of the factory are seldom limited to the power required to operate the heavy-duty machines in the plant's production centers. There are many additional power needs, such as needs for heating and ventilating, lighting, the operation of varied types of ovens and furnaces, portable drills, pneumatic drills, elevators, cranes, dust collectors, and so on. Again,

there is the question of whether power should be purchased or generated within the establishment or whether some middle course should be followed. If a generating plant is set up, all the problems of maintenance and continuity of operation must be assumed.

Such, in brief survey, are the physical problems of manufacturing. Taken together with the necessity for coordinating and controlling design, equipment, materials, and operations by means of an effective organization of the production department and a liberal use of communicating and measuring devices, they have resulted in elaborate techniques which are rigorously applied. Our country's strength lies very largely in the expertness of its manufacturing. The magnificent productivity of our modern tools has made us phenomenally rich. But unless we can still further improve our manufacturing methods we may not maintain our leadership. Where progress is expected, pause will not suffice. We must go on!

XIII

MARKETING

THE central fact of modern business is that nearly all commodities, rights, and services are produced for sale in a market. This is true of minerals dug out of the ground, of crops grown in it, of articles manufactured upon it, and of the services conceived and performed by man. So far as the business of manufacture is concerned, to bring raw materials from the four corners of the earth and produce the finished goods is only part of the job. The product must eventually reach the consumer or production will be obliged to stop. Because of the tendency toward large-scale manufacturing and toward the geographical specialization of manufacturing, a wide gap in time and space has been created between the manufacturer and the "ultimate" consumer.

Our earlier survey of modern business has shown us that the three successive steps in economical development have been: producing for one's own needs, producing for direct exchange with one's neighbors, and producing for the general market. Neither of the earlier steps has altogether disappeared. But the great bulk of modern production is for the general market.

It is only on very, very rare occasions that the skilled craftsman or even the machine tender acts as salesman. Most manufacturing workers make or help to make goods which others will have to sell to unknown customers who may be living in another continent. Modern business has developed rapidly away from the old order of direct sale. In the stock of a tiny retail store there can be found goods from practically every State in the Union and from many foreign lands as well. The marketing function has become greatly specialized and demands the services of men of the highest grades of business ability. Marketing is no longer a butterwoman's job.

An extremely elaborate system has developed for the purpose of bridging the gap of space and time between the farm and the factory and the thousands of households whose needs and wants the farm and the factory attempt to supply. In order to understand the marketing problem it is necessary, first of all, to resolve it into its component parts or activities. These activities are many and complex. They are necessary in order to reach the consumer with goods where they are wanted, when they are wanted and in the form they are wanted. In making a purchase, the consumer must decide upon the type of goods, the particular brand, grade or unit to be purchased, and the particular vendor to be patronized.[1] In this whole process the consumer

is influenced by the extent to which sellers have carried out their responsibilities in the marketing of goods. These responsibilities or activities are called the marketing functions. They include assembling or purchasing, distributing or selling, storing, grading, traffic control, risk-bearing, and financing. Broadly viewed, of course, marketing may be resolved into two complementary activities: assembling and distributing. These are the fundamental activities whether the producer and consumer deal directly or through middlemen. As Alfred Marshall points out, "the chief functions of middlemen are those of studying the wants of consumers and the resources of producers and bringing the two into connection." [2] In effecting this connection, however, the middleman must perform the other related and auxiliary functions listed above.

Three types of purchasing or assembling activities are important in marketing. There is first the assembly of like goods for the purpose of obtaining a sufficient quantity of goods under one control for economical operation. This is the type of assembly which interests the car-lot shipper, the local grain elevator, the cotton broker, the grain broker, and so on. Next there is the assembly which is performed for the immediate purpose of obtaining raw materials, fabricating goods, accessory goods, and installation equipment in the amounts, of the kind, and at the

price to make economical manufacturing possible. This is the type of assembly in which the purchasing agent of the manufacturer is engaged. Finally there is assembly for the purpose of obtaining a sufficient variety and amount of goods to meet the convenience of buyers and to make economical operation possible. This, in turn, is the province of the purchasing agent for the jobber or wholesaler of consumers' goods and of the retailer. In all types the efficient performance of this function depends upon a thorough knowledge of market supply, market demand, market prices, and sources of production; an economical and effective methodology for executing and following up orders: and a continuous check of stocks on hand.

Selling or demand-creation activities in some form are involved in the marketing of every commodity. Sales are made on three bases: by inspection, by sample, and by description. Of the three, sales made on the basis of description are the least costly. But not all products lend themselves to sale by description. It may be impossible to sell a carload of potatoes by description or even by sample, while it may be perfectly possible to sell a Hamilton watch by description alone. Much depends upon another function, that of grading, so far as possible bases of sale are concerned. The two principal sales methods are advertising and personal salesmanship.

Either may be used alone, but both are generally used in some carefully-planned combination. The steps involved in demand creation and making a sale are: advising the buyer as to kind and quality of goods, and where they can be secured, creating an effective desire, securing an agreement as to price and as to terms.

There is almost always a "lag" between production and consumption which makes the activity of storage highly essential.[3] Goods must be stored until consumers are ready to use them, largely because the consumption of most products is fairly even and continuous while production is often intermittent.[4]

In general, there is need for three kinds of storage. common, special, and cold. Common warehouses provide storage for non-perishables and need to be built simply to keep the product dry and to keep it from being wasted. Special warehouses provide storage for semi-perishables and may be equipped with air-circulating and temperature-controlling devices. Cold-storage warehouses provide for perishables like green vegetables, butter, eggs, meats, and so on, and are equipped to provide temperatures at or below freezing.

Standardization involves the adoption of definite rules as guides for the process of producing or sorting commodities into uniform groups.[5] These standards or rules may be based upon a

variety of factors such as size, shape, strength, chemical content, flavor, moisture, method of packing, etc. The actual dividing or sorting in accordance with these standards or rules is grading.[6] The standards or rules which are used in grading may be fixed by public authority or by private initiative. Common or public standards are usually established and promulgated by the State or Federal Governments. They tend to do away with distinctiveness as regards the output of any one producer, for they frequently result in the mixing of goods of similar type and grade so that the identity of individual lots is lost. They make it possible to sell goods by description (grade) rather than by sample or inspection. Private standards are used to make the units of a product uniform, to provide easy identification, and to imply distinctiveness when compared with competing products. Private standards are represented by brands or trademarks which are made known to the market through advertising and personal salesmanship.[7]

Even in the case of the simplest marketing mechanism, the transportation function is involved and must be performed either by the buyer or seller. Transportation or traffic control includes a variety of subfunctions such as proper packing and loading, the selection of favorable rates and routes, an effective consideration and use of terminal facilities, and the study and

control of trucking, draying, or delivery systems. This function is often so costly as to limit the geographical bounds within which the product can be marketed. The cost of performing the assembly haul, largely carried on by wagon and motor truck—the intermediate haul, accomplished by the railroads and steamships, and the final haul by wagon and truck—has a vital effect on the problem of reaching the consumer.

At all stages of the marketing process there are certain risks which must be assumed by the seller, buyer, middleman, or risk-bearing specialist. In general, these risks are of three types: definite risks, indefinite risks, and price risks. Definite risks are the risks of physical losses and consequent money losses, through fire, flood, sprinkler leakage, tornado, hail, theft, and so on. Most of these risks can be passed over to the professional risk takers, the insurance companies. However, the insurance premiums which must be paid add to the cost of doing business, and the indemnities paid over by the insurer seldom compensate completely for the losses sustained. Indefinite risks are the risks of losses caused by deterioration, style changes, and the like. These must be borne by the owner of the goods and can be minimized only by the exercise of good business judgment in buying and selling. Price risks are similar. Losses may be sustained because of changes in market prices.

These losses must be borne by the owner of the goods. They cannot be passed on to others except through hedging, which is possible in organized commodity exchanges where future trading is permitted.[8]

Financing, too, is a function which is fundamental to the whole process. Goods are produced or manufactured, stored, and transported on the assumption that they will be purchased and paid for in money. On this assumption credits may be secured during the period of transportation and while they are in store.[9] The task of securing these credits is an important function of the producer, or manufacturer, or middleman. Practically every series of ownership-transfers necessitates financing, and financing quite naturally increases in importance with the length of time elapsing between production and consumption.

These, then, are the chief marketing functions. They are performed by the producer or manufacturer and by the middleman. Accordingly, the next question which presents itself is with respect to who and what are middlemen.

Middlemen are individuals, firms, or corporations that stand between prime producers and ultimate consumers and that specialize in the transfer of title to goods and in the performance of other essential marketing services. These individuals, firms, or corporations are in business for themselves and attempt to conduct their

enterprises in such a way as to make a profit for the risks they assume in addition to being paid for the costs of their services. Salesmen are not middlemen. They are excluded definitively because they are not in business for themselves and, consequently, do not assume the risks of an entrepreneur, and do not receive any profit from their sales as such. Hence, a manufacturer who sells his products exclusively through a force of salesmen which calls upon ultimate consumers from door to door, is not selling through middlemen.

All middlemen may be classified upon the basis of their relationship to the transfer of title to goods. In fact, the relationship of middlemen to the ownership of goods and to the transfer of title to goods is one of the most logical and useful factors in defining the position of any group of middlemen, both from a legal and from an economic point of view. On this basis, middlemen are classified as merchants and as functional middlemen.

Those middlemen who buy goods outright, and thus take title to them are called merchants. This class of middlemen generally performs all or most of the marketing functions. Wholesale receivers, jobbers, and retailers are the most common members of the merchant class of middlemen.

Those middlemen who assist directly in bring-

ing about a transfer of title, but who do not themselves take title to goods, are called functional middlemen. This class of middlemen generally specializes in the performance of a limited number of the marketing functions, one of which has reference to the transfer of title through assembling or (and) selling. Selling agents, brokers, and commission men are the most common members of the functional class of middlemen. On the part of some writers, there is a tendency to include in the classification of functional middlemen other individuals, firms, and corporations which specialize in the performance of a part or all of the work involved in some one type of market service. Such agencies as railroads, inspectors, graders, banks, cold-storage plants, public warehouses, and insurance companies, by acting in some specialized capacity do facilitate certain marketing activities for the producer, the middleman, and the consumer. They are not *bona fide* middlemen, however, and they should not be classified even in the functional group, for they render no direct assistance in the transfer of title.

These two groups of middlemen are concerned with carrying out marketing services in connection with various types of vendible commodities. Naturally, the variety and complexity of goods in this day and age of power-driven producing machinery is perfectly astounding. However,

vendible commodities can be roughly classified, at least. The principal class groups may be listed as follows: agricultural goods, raw material goods, technical goods, services and rights, and consumers' manufactured goods.

The farm produces a large portion of the world's supply of vendible commodities. Wheat, cotton, barley, oats, rice, flax, rye, corn, tobacco, and fruits and vegetables are typical primary farm products. Livestock and dairy products are typical secondary farm products. Some of these products, like fruits, vegetables, milk, cream, eggs, and so on, are ready for consumption when they leave the farm. Others, like the grains, livestock, and textile fibers, are the raw materials of industry and must pass through one or more manufacturing processes before they are ready for consumption.

The second group or classification of products, then, has reference to raw materials other than farm products. The extractive products such as coal, iron ore, zinc, copper, and so on, belong in this class. Here, too, some products, such as coal, go directly to the household for consumption, while iron ore, copper, and zinc must be processed. Even in the case of coal, a very large tonnage becomes raw material for industry and is consumed in the productive process.[10] In this second group belong fabricating goods as well. These are goods which have already been proc-

essed to some extent but which are still considered raw materials and must be fabricated still further before they are consumed. Sheet iron, structural steel, hides, cotton cloth, and cut lumber are illustrative of fabricating goods.

Technical goods are goods which are used in manufacturing but which are beyond the raw material form and do not enter the finished product in its marketed form.[11] These goods are purchased for purely utilitarian purposes, for definite uses in manufacturing. They include such accessory goods as belting, tools, office supplies, and such installation goods as factory boilers, heavy cranes, textile machinery, and so on. They are called technical goods because technological considerations of design, quality, and performance are the major determinants in their purchase and consequently in their manufacture.

The next group of vendible commodities is composed of the "intangibles," services and rights. The services which fall into this group may be personal and technical advice or actual and personal execution of a desired activity. They may be the professional services of physician, surgeon, dentist, clergyman, lawyer, engineer, accountant, and so on. They may be the skilled labor service of the plumber and the carpenter. They may be the semi-professional services of the advertising agency or the collec-

tion agency. They may be non-professional services of the public utility. They may be storage, transportation, or communication. The rights may be bank credit, securities, or insurance. Obviously, this class of "intangibles" is exceedingly varied in the nature of its component elements.

Consumers' manufactured goods are those fabricated products which are sold to the "ultimate" consumer, in terms of an individual or household. They may be classified on the basis of the characteristic purchasing behavior of the consumer. Thus, we have convenience goods, shopping goods, and specialties. Convenience goods are goods of small unit price in the purchase of which the consumer wishes to be put to a minimum of effort. Staple groceries, tobaccos, drugs, and so on, are typical convenience goods. Shopping goods contrast with convenience goods in that in their purchase the consumer desires to compare prices, qualities, and styles. Gingham cloth, chinaware, yard goods, clothing, jewelry, and so on, are typical shopping goods. Specialty goods are those which have some particular attraction for the consumer other than price alone. Their purchase is important and infrequent enough to induce the purchaser to visit a distant retail store, if necessary.[12] A Hickey-Freeman suit, a Dunhill pipe, a Mark Cross brief case, or an Electrolux Refrigerator are

examples of products which may be specialty goods so far as an individual consumer is concerned.

Now, there are certain definite steps in scientific marketing procedure which may be utilized by the producer or manufacturer and by the middleman. These steps are directly pertinent to the performance of the function of selling, altho they may involve the other auxiliary functions as well. Naturally, the possibilities of using these steps in scientific marketing procedure will vary somewhat from product group to product group. In some cases the individual producer or manufacturer and the individual middleman may be highly limited in their utilization because of the nature of the product which he may be engaged in handling. These steps in scientific marketing procedure are as follows: market analysis, market forecasting, the formulation of definite product policies, price policies, distribution policies, consumer or dealer policies, the effective and economical direction and control of personal salesmanship, and the effective and economical direction and control of advertising.

In the marketing of all products, the marketing functions remain practically the same with the exception of the selling function, altho different functionaries are common to different product groups. The use of the above steps in scientific marketing procedure also varies in in-

tensity and extensity among the several product groups. Accordingly, a few words of description concerning the principal marketing problems which are typical of these product groups, the middlemen who perform the functions, and the possibilities of utilizing the scientific steps in selling, will be helpful.

The marketing of agricultural goods is complicated by the following factors: agricultural products are produced on a small scale by a very large number of producers, agricultural production is very largely seasonal in character, a large portion of farm production is perishable, agricultural production varies greatly in quality and quantity from season to season. As a result of these factors the functions of assembling, traffic control, grading, and storing are exceedingly important. Since the points of production and consumption are widely separated, agricultural products pass through various types of markets. These markets are usually classified as: local growers' markets (at country points), primary wholesale markets (at central concentration points), terminal markets or secondary wholesale markets (at central distribution points), and retail markets (at points of consumption). In the local growers' markets are found the following types of middlemen: local buyers, car-lot shippers, country-store buyers and shippers, traveling buyers, traveling brok-

ers, and cooperative shippers. In the primary wholesale markets are the brokers, commission men, auction company, jobbers, car-lot wholesalers, and cooperative selling agents. In general these same middlemen are typical of the terminal or secondary wholesale markets. In the retail market are the specialty grocery, meat, dairy product, and fruit and vegetable stores, public retail markets, chain, and cooperative food-product retail stores.

Now, so far as the selling function is concerned, the individual farmer can make very little use of the steps in scientific procedure. He can practise market analysis and market forecasting to a limited extent. He can adopt and use certain policies of production, but he can scarcely even package or identify his products by brand on a large scale. He cannot select his own distribution channels irrespective of existing marketing middlemen. He cannot enforce particular price policies, because he is a small producer and must take pretty much what the assembling middlemen offer. He cannot work out dealer or consumer policies. He can make very little use of effective personal salesmanship and practically no use of advertising. Only by combining with other producers in cooperative marketing associations can he apply these techniques at all intensively or extensively. The agricultural middleman can do more, of course,

but he, too, is limited by the fact that essentially he is a small handler in comparison with the total volume of almost exactly similar production.

The marketing of such raw materials as extractive goods and fabricating goods is also highly complicated. A number of important factors affect the problem of marketing this class of goods. The points of raw-material production are generally few and localized. The markets, also, are largely concentrated in industrial centers. Raw materials are usually large in bulk as compared with intrinsic value, so that transportation costs are significant. The uses of raw materials are constantly altered by research and experimentation. The question of substitution generally shadows definite uses. The wide variety of possible uses for raw materials presents a wide variety of markets which must be reached, and the whole process of marketing depends upon the rate of manufacturing activity. Wholesale and retail markets overlap, for such raw materials as paint, cotton cloth, and leather are sold for retail distribution as well as for industrial use.

The principal middlemen engaged in marketing this group of products are: commission merchants, brokers, sales agents, wholesalers and retailers. Special-type middlemen like wholesale and retail dock and trestle coal companies,

and wholesale and retail lumber-yard companies, independent or line (chain), are also common. The individual producer of industrial raw materials and the raw-material middlemen can make a much more intensive and extensive use of scientific marketing procedure than can the farmer or the farm middleman. Market analyses are profitable because the exact needs of buyers can be rather accurately determined. The forecasting of supplies and price-trends is important because raw materials are purchased on a price basis and very frequently on short or long-term contracts. Distribution policies can be worked out somewhat irrespective of traditional marketing channels. Definite price policies, such as guaranties against price decline, and so on, are possible. Consumer policies which are equitable and fair can be made to build up good will. Aggressive and scientific personal sales forces can be maintained, for raw-material buyers are concentrated in industrial centers, do not require frequent visitation, and appreciate technical advice with respect to raw materials. Some use of advertising may be effective and economical, particularly when it is directed toward the manufacturer. Ultimate-consumer advertising is more costly and more dubious so far as results are concerned. Even tho identification of raw materials by brand may be possible, most raw materials form a component part of a finished

product, and the consumer is more likely to be interested in the finished-product brand than in the raw-material brand on a part or element of the finished product.

The accessory and installation goods which make up the class of technical products also present their special marketing problems. Here, the total number of buyers is relatively small. The competition for markets is extremely keen. The distribution of the markets has no inherent relationship to the distribution of population. The character of the market is determined by the particular use to be made of the product. Installation goods, in particular, must fit the needs of the individual plant or industry. Buying on specification and to individualistic order is common. Purchasing is carried on from the point of view of possible product performance. The buying test is the cost per unit of satisfactory service. Installation goods are purchased at infrequent intervals and the unit of purchase is large. Accessory goods are purchased more frequently but at irregular intervals and in varying amounts. The need for continuous and consistent service imposes service obligations upon the seller, particularly in the case of installation equipment.

Such are some of the significant marketing factors which affect the problem. The marketing functions are performed, in the main, by sales

agents, wholesalers or jobbers, and such special-type middlemen as mill-supply houses (wholesalers) and sales-engineering concerns (sales agents). Retailers, too, are involved, for some kinds of accessory equipment such as wrenches, bearings, fans, and so on, are sold to the retail as well as the wholesale markets. Both the manufacturers of technical goods and the middlemen handlers may make an effective use of scientific marketing procedure.

Accurate and comprehensive market analyses are necessary to secure repeat orders, to avoid replacement by competitive products, and to consummate initial orders. Technical products are often purchased as the result of competitive bids, and market forecasting is absolutely necessary to estimate production costs in terms of present and future raw-material prices. Single distribution channels or mixed channels may be used as effectiveness and economy seem to dictate. Individual sales forces which scout for business and offer engineering advice may be profitably maintained. Buyers will consider the purchase of installation equipment long before it is actually purchased. They will purchase accessory equipment at irregular intervals. Hence advertising which is directed toward the industrial market, and which stresses performance facts, design, and construction details and service facilities, will be effective.

The marketing of services is not a highly organized process as a general rule. Personal services are individualistic and consequently are marketed pretty much on a one-man basis. Few middlemen take a hand in the process. Occasionally the broker and the commission man become important factors, but, on the whole, personal services do not lend themselves to middleman handling.[13] Personal services cannot be standardized and produced in quantity to any extent. Often they cannot be accurately described. They cannot be transported, classified, and measured in the sense of physical products. Accordingly, sales are usually more or less direct and the functionaries of distribution are absent.

In the case of rights, such as bank credit, insurance, and securities, more elaborate marketing procedures are generally employed. Insurance may be sold by the insurance company's own marketing department or through middlemen known as insurance brokers. A considerable use can be made of the whole technique of scientific marketing. Bank credit is obviously a direct proposition between lender and borrower. Securities are marketed by the institutions described in Chapter IX and through organized market places called exchanges. The New York Stock Exchange is the best-known American exchange through which securities are bought and sold. Corporations must go through a number of

formalities and must provide and establish many facts about their business before their securities may be traded in on the exchange. When these securities are admitted for trading purposes, they are said to be "listed." [14] In New York there is also a Curb Exchange—so called because its trading was formerly carried on in the open street—through which securities may be bought and sold. Such exchanges make investment easy, since they provide a place where almost anyone may buy and sell through agents or brokers.

Manufactured consumers' goods are produced in quantity for sale to wide markets. They are intensively marketed through middlemen, and pass, in the main, to the individual or the family through retail outlets. The jobber is perhaps the most distinctive wholesaler in the marketing of manufactured consumers' goods. He may be a general jobber who handles a full or complete line of merchandise such as groceries or hardware. Or he may be a specialty jobber who handles a relatively small group of articles such as knit goods or hosiery products. He is a merchant middleman who stands between the manufacturer or the broker, sales agent, or commission merchant and the retailer.

Many types of retail outlets can be distinguished in the marketing of manufactured consumers' goods. The general store which is typical of the small towns and rural districts is perhaps

the simplest type of retail outlet. It handles groceries, hardware, dry goods, shoes, clothing, hats, and even farm implements. It has a relatively small volume of sales and cannot carry any complete assortment of each class of the goods which it sells. As a rule it is owned and operated individually or "independently." Then there is the specialty store, a single unit retail store which handles a limited line of merchandise and represents the trend toward specialized retailing.[15]

Two types of specialty store are common, the neighborhood specialty store and the exclusive specialty store. The former type depends for its market on the "contiguous territory" rather than on the quality of its merchandise and the service rendered. It handles convenience goods or shopping goods. The latter type of specialty store caters to a "downtown" and quality trade and handles shopping goods and high-class specialty goods. In general, it charges high prices, carries a carefully selected stock and provides a maximum of service. The department store is a "retail institution organized on a departmental basis, in which one of the large departments is dry goods."[16] It is typically a large-scale establishment and may include under one roof fifty or a hundred separate departments. It relies for its merchandising success upon scientific organization and manage-

ment, quantity purchasing, abundant publicity, well-trained counter salesmanship, and service to its clientèle. Usually this service consists of delivery, credit extension, and convenient store facilities. The mail-order house is also a retail establishment, but a retail institution which secures its orders by mail rather than by personal contact with purchasers.[17] The large general-merchant mail-order houses carry and market a tremendous variety of merchandise which is mainly purchased from manufacturers. They follow the practise of carefully guaranteeing their merchandise, of charging low prices, of making special inducements to buy in quantity, and of executing their salesmanship in the catalogs. Other types of mail-order houses confine their offerings to one or more special lines.

The chain-store idea in modern retailing represents the trend toward standardization as applied to separate retail units under central management. In fact, a chain-store system may be defined as "a group of stores handling similar lines of merchandising with a single ownership and centralized management, but with decentralized location."[18] Generally, the unit member stores are located with reference to traffic streams. The appearance of each member store and the stock which it carries is highly standardized and conforms with that of each other member of the chain. The buying and the

storing are usually carried on by the central office. Store managers and clerks are trained and standardized promotion plans are used. Naturally, there are many types of chains, chain general stores, chain neighborhood-specialty stores, chain exclusive-specialty stores, and even chain department stores.

In marketing manufactured consumers' goods through these various types of middlemen, the manufacturer can make an intensive and extensive use of the several steps in scientific marketing procedure. Broadly speaking, he will find it necessary to assume a very large portion of the selling burden. He may attempt to hand his entire marketing problem over to the middlemen through whom he chooses to reach the consumer, but usually any such effort will be somewhat unsatisfactory in profit results. Accordingly, the medium and large-sized manufacturer will attempt to set up some marketing organization of his own through which the techniques of scientific marketing procedure can be applied.

Sound logic and scientific methodology have not been applied to the problem of organizing a manufacturer's marketing department to the extent to which they have been utilized in setting up the production or manufacturing department. As a result too little attention has been paid to functionalizing the marketing department, coordinating its activities, and separating

study and planning from performance. The typical department is headed by a sales manager, to whom the advertising manager and the branch sales managers (if the company maintains sales branches) are responsible. In the more elaborate organizations the marketing department is presided over by a vice-president in charge of sales, a director of distribution, or a marketing manager. Directly under this executive may be the field sales manager, the sales office manager, the sales promotion manager, the advertising manager, and the director of market research. Obviously, this type of organization takes more account of specialized tasks. If the concern executes and places its own advertising, the advertising personnel may be subdivided into copy, art, placement, and checking groups. If, however, most of the advertising is planned, executed, and placed by an advertising agency, the work of the advertising manager may be confined to direct-mail advertising, to internal house organs, and to maintaining an advisory and checking contact with the advertising agency. No standard organization set-up can be indicated here, because of the variety of present business practise, and because of current uncertainty with respect to what should be included under the head of various functions, such as sales promotion, for example. The most that can be said is that in this so-called "distribution

age," when marketing costs appear to be mounting rapidly, much more study and experimentation in marketing organization may be expected. In most cases it is certainly needed.

The manufacturer of consumers' goods can hardly escape the necessity for continuous and careful market research and analysis. Market data should furnish the basic factual information upon which policies are set up. Research and analysis are necessary prior to the production of a new product and continuously throughout the life of the enterprise. They furnish information with respect to undeveloped market possibilities, unprofitable territories, new needs and wants, necessary adaptations and changes in the product line, and a veritable host of other important considerations. Research makes available quantitative information concerning the purchasing power of trading areas, the average per capita consumption in those areas, and so on. Moreover, it provides qualitative information concerning consumers' prejudices and preferences. Both types of information are necessary, since willingness to buy is just as important as readiness to buy.

Product factors, market factors, and competitive factors are the chief focal points of most market research and analysis. Investigations are carried on in an effort to secure facts and to secure collections of opinions or judgments of

considerable numbers of people.[19] The methods used to gather these facts are the circulation of mailed questionnaires and personal interviews with dealers and ultimate consumers. In addition, laboratory and user tests of the product line may be conducted from time to time. Economy investigations of the actual techniques used in the marketing department may also be made and often result in new methods which effect important savings. Thus, market research may range over a wide field from investigations of the average number of salesmen's calls per day to consumers' color preferences with respect to packages, to study of magazine duplication of circulation, to evaluations of consumer acceptance in various territories, and so on.

Forecasting is similarly important as a basic factor in business planning. It is necessary to look ahead for considerable periods, "to evaluate trends and to make preparations for them."[20] While the technique of market forecasting is not yet highly developed, some enterprisers have been able to work out forecasting methods of rather surprizing accuracy. Where markets are clearly defined in character, where product uses are well known, and where complete and accurate records of past accomplishments have been kept, forecasting is possible and will be valuable. It is certain that one of the greatest needs of the manufacturing enterprise

is a technique for effectively coordinating production programs with carefully-determined sales possibilities. A disproportionate emphasis upon volume of production may throw an impossible burden upon the marketing department and cause marketing costs to mount sky-high in the frenzy of "high-powered" selling.

The first group of policies which need to be decided upon in the light of market facts is the group of product policies. Whether the enterprise is considering the addition of new products to the line or the adaptation of old ones, definite product policies are desirable. These policies have to do with the number and type of products to be made and sold, the relation of style and quality, the company's guaranties, the identification and the packaging of the product line. All questions of trade-marking, "family" or individual brands, the use of a trade character and trade slogan, fall under this general heading of product policies. All these policies are of particular importance in marketing, since they so largely determine the talking points and the selling points which may be used in distributing ideas about the production through personal salesmanship and advertising.

Price policies, too, need to be carefully considered and definitely set up. These policies have to do with such fundamentals as the general price level which it is desired to maintain, either

the market "plus" level, the market "minus" level, or the "at the market" level. They involve such matters as guaranties against price declines, which may be made to dealers or ultimate consumers. They include all the many and complex discount questions, trade, cash, quantity, geographical, forward datings, and the like. Taken as a group, they determine the conditions under which the business enterprise will sell and deliver goods. It is important that they be clear and definite and that the marketing department should understand the underlying reasons for them and the objections which it may encounter in presenting them to prospects and customers.

The distribution policies of a business enterprise are concerned with the selection and use of the marketing channels through which the product line is to be distributed to consumers. The nature of the product line, the existing trade organization, and the peculiar circumstances of the particular enterprise are important factors in choosing a definite distribution policy.[21] The principal available marketing channels are as follows: sale direct to consumers by mail, personal solicitation, or through manufacturers' retail stores, sale direct to retailers who deal with the ultimate purchaser, sale direct to wholesalers or jobbers, and sale direct to middlemen who customarily deal with the wholesaler or job-

ber (sales agents, brokers, factors, commission merchants). These channels may be used singly or in combination. In fact, there appears to be a growing tendency to adopt "mixed" policies of distribution, to use these channels in combination. In such instances a product or territorial line of demarcation is usually set up between two different channels of distribution. A manufacturer, for example, may sell direct to retailers in Atlantic seaboard cities, direct to jobbers west of the Alleghanies to the Mississippi River, and direct to brokers in the West and on the Pacific coast. Or he may sell branded, first-quality, packaged products direct to retailers, and unbranded, bulk products to wholesalers and jobbers.

In the use of any one channel of distribution, a policy decision must be made with respect to the number of middlemen that will be used—whether the policy will be general distribution, selective distribution, or exclusive distribution. If the product is a convenience good, general distribution is desirable whether it is direct-to-retailer distribution or wholesaler-retailer distribution. If, however, the product is a shopping good, selective distribution may be satisfactory. And if the product is a high-class specialty, exclusive-agency distribution may be advisable.

Again, the question of the particular types of retail outlets which should handle the product is

important. The ultimate retail market should be carefully considered, whether it is reached directly or through middlemen. General stores, neighborhood specialty stores, exclusive specialty stores, mail-order houses, chain stores, and department stores all have special marketing characteristics and offer various possibilities which depend, in the main, on the exact nature of the product line. In addition to the product as a determinant, as has already been suggested, the existing marketing custom and resultant trade organization may preclude the choice of a particular distribution channel. "The existence of a smooth working system of middlemen tends to force a company to take unusual risks if it departs from the customary channels." [22]

Dealer and consumer policies are also essential and vital because of their effect upon marketing costs and upon market good-will. In general, these policies have to do with returned goods, claims and allowances, cancellations, sales on approval, sales on consignment, instalment purchasing, credits and collections. The perplexing problem here is the extent to which standard policies can be applied, the question of individual exceptions to standard policies, and so on. Exceeding care is necessary to establish and maintain policies which will be fair, which will give the dealer or customer some freedom of adjust-

ment when dissatisfied, and which will avoid preferential favors.

These, then, are the essential sets or groups of policies which must be formulated and put into operation if the activities of the marketing department are to be effective and economical.

The next matter of marketing technique is concerned with the direction and management of the field force of personal salesmen. The personnel of the personal sales force may be large or small, depending upon the scale of marketing operations and the method of distribution. If it is large it will have to be carefully organized, perhaps on the basis of branch-office groups, branch-office crew groups, or perhaps on the basis of function, one group for each major class or products, or on some combination of these possibilities.

Provision will necessarily be made and machinery will be set up to recruit salesmen for the field force. Possible sources will be listed and job analyses and evaluations of past experiences will guide the dependence upon these sources. Advertising, personal, and mail contacts with employment agencies and educational institutions may be developed in an effort to secure a sufficient supply of sales applicants.

Methods of selecting salesmen from the recruited applicants will also be evolved. The technique of interviewing, evaluating recom-

mendations, and applying tests, psychological or factual quizzes will be developed to aid in the process of selection.

If the selling task is at all complex or if the average buyer is at all difficult, the technique of training the field sales force will also be given attention. Few business enterprises can afford to allow their new salesmen to practise on prospects and customers. Consequently, rather elaborate programs of initial training will generally be imposed upon the new recruits. Moreover, individual instruction, class instruction, and correspondence instruction may be offered from time to time to the force as a whole, to the experienced salesmen as well as to the novices. In connection with sales training, the matter of equipping the field sales force will be studied and worked out. Sample cases, models, photographs, motion-picture projectors, advertising portfolios, and sales manuals, will come in for their share of attention as devices which may aid the effectiveness of the selling talk.

The chief problems of supervising the field sales force have to do with setting up standards of accomplishment, laying out territories, controlling the salesman's time, and controlling the salesman's expenses. Careful territorial allotments will be made and routing will be closely supervised in an effort to cultivate the market intensively as well as extensively. Standards of

performance with respect to number of calls, and so on, will be rigidly insisted upon wherever and whenever standards are possible. Daily work and daily expense reports will ordinarily be required of all men in the field, and these reports will be checked and used as the bases of reprimand, congratulation, and additional instruction.

Efforts will also be made to work out a systematic procedure for the encouragement and stimulation of the salesman's best efforts. Compensation plans will be studied, adapted, and combined in order to set up money rewards which will act as sound incentives. Sales contests will ordinarily be held from time to time to instil the spirit of friendly competition and to draw attention to particular phases of the selling job, such as window-dressing assistance to the retailer, for example. Occasionally sales conventions may be held at the home or branch office to furnish an opportunity for the consideration of particular sales problems and to develop friendly contacts between the home office executives and the field force. Company magazines may be instituted and edited for the sales force in the interests of stimulation, entertainment and education. It should be remembered that the salesman, in the very nature of things, is more or less his own master while on the road. Moreover, in most cases, he is alone in his territory and lacks the direct incentive "which is furnished

by working with others at similar tasks." [23] He needs stimulus and incentive, so that he will do himself justice by doing the best that he can, and so that the marketing activity will be carried on at a minimum of cost in comparison with results.

The use of advertising presents its special problems of control, problems which are just as vital as the problems of personal salesmanship. While advertising as a selling medium is much more recent in its development than is personal selling, it is to-day an especially effective marketing force. Moreover, it may become highly costly and wasteful if it is not carefully controlled.

Advertising is used to present ideas about goods to prospective and present purchasers. It may be directed and controlled by the marketing department of the individual business enterprise or by a specialized advertising agency engaged to do the work by the individual enterpriser.

The technique of building an advertising campaign is rather highly refined. Planning the marketing purpose of the advertising campaign is the first step. The general copy theme or "dominant" idea is decided upon after considering the purpose of the campaign, the attitude of the reading audience which the campaign desires to reach, the chief buying motives which

influence the purchase of the particular type of product, and the exclusive or special features of the product when compared with competing products. The copy personnel then experiments with different methods of approach, of development, and of close, and prepares possible pieces of copy. The art staff experiments with visualization and attempts to express in picture the dominant or a related but appropriate idea. When decisions are made on copy and visualizing illustrations, the layout personnel attempts to combine the copy elements and art elements in an arrangement which will carry the meaning that the advertisement is designed to express and an arrangement which will be in accord with certain structural laws and yet be distinctive.

Next, the media group will suggest the most effective types of media to be used, the best proportionate use of the various types, and the most effective individual media within the group or type. The whole range of magazines, newspapers, trade-journals, painted or electric signs, posters, street-car or subway cards, letters, booklets, catalogs, programs, novelties, and so on, will be considered. Qualitative and quantitative (circulation) reasons will be presented in support of the suggestions. Costs will also be itemized.

When the media are decided upon the schedule

of insertions is worked out, cost estimates are set up and advertising appropriations requested. If the resultant plan requires an advertising appropriation which cannot be secured, the plan will necessarily be trimmed. But in every case the start of this revision process should be with the purpose or objective. If the initial plan has been soundly prepared it can hardly be trimmed without also trimming the campaign objective.

Finally, it should be said that special efforts are made to coordinate the work of advertising and personal salesmanship, to fuse these two marketing forces into a unified marketing campaign. There is but one answer to the growing demand for better marketing. The whole process must be studied as the processes of production have been studied. Principles and techniques must be evolved. Campaigns must be planned scientifically, controlled intelligently, and measured relentlessly.

XIV

FINANCING

Instead of attempting to operate a snug, easily managed, financially guarded, and therefore safe business, which will yield a reasonable profit, many business enterprisers try to buy and sell double the quantity of goods which their capital justifies. Instead of spreading an amount of canvas proportioned to the tonnage of their craft, the mass of those who embark on the treacherous ocean of trade crowd on all sail and endeavor to make the utmost knots per hour. For a while "fair laughs the morn, and soft blows the zephyr." But suddenly a squall bursts upon them, and they are swept, in spite of every effort, towards a lee shore to break up on the rocks of bankruptcy or receivership. All of which is by way of saying that inefficient financial administration can do much to wreck a business.

Broadly speaking, the financial administration of a particular business enterprise is concerned with maintaining its capital so that its credit will be good with outsiders, and maintaining a regular rate of income on the investment of its proprietors, partners, or stockholders so that it will be in good standing with its owners.[1] Apparently, this is a simple enough proposition,

but when it is broken down into necessary operations, the task of financial administration is certainly many-sided and complex. In terms of necessary operations, it includes such relatively infrequent financial operations as securing capital funds to start a business and effecting an expansion of capital funds from time to time. It involves such day-by-day financial operations as distributing earnings, providing for depreciation, setting up essential reserves, making short-term loans, controlling credits and collections, regulating the routine for handling cash, handling taxes, and insurance, controlling the purchase, mortgaging, leasing, renting, and selling of real estate, recording and classifying financial facts by systematic accounting, preparing and publishing financial standards of the condition and progress of the enterprise, and so on.

In the beginning and throughout all the stages of the organization of a new business enterprise there are numerous questions which must be considered from the point of view of finance. Decisions must be made upon a number of matters which are inherently financial in nature. Some members of the organizing group must furnish the necessary financial advice or outside counsel must be secured. Such matters as the amount of funds which must be in hand in order to start the venture, how long a period will elapse

before business profits begin, how these necessary initial funds are to be secured, what kinds of contracts shall be made with those who supply the funds, and how issued securities shall be marketed are all vital financial problems. They need the application of a purely financial type of thinking.

Obviously, some of the initial fund requirements in beginning a new business are necessary to provide for a plant, equipment, and machinery. The physical plant and its equipment are more or less permanent in character and call for a long-time investment of capital. They constitute the fixed capital requirements. Now, a new business will not begin to earn money as soon as it is started. Even tho a complete business machine is set up and manned by competent workers, there will still remain the need for funds "to put the entire machinery in operation and to keep it in operation till the business pays for itself."[2] During the period of initial production and pending the profitable marketing of goods, capital is tied up by work in process. Working capital, then, is needed as well as fixed capital. Nor is the need for working capital confined to the initial period of operation. At almost any time in its career, a business enterprise is likely to find periods when its earning power is reduced and when it needs additional working capital. And so it may be said that

"working capital is the life-belt that keeps a business afloat when its earnings are suffering from cramps or while it is still learning to swim." [8]

How much fixed capital must be secured in order to acquire the necessary fixed assets, may be determined with a fair degree of mathematical accuracy. The cost of constructing buildings and plants, the costs of equipment and machinery, and the costs of installation can be ascertained. The amount of initial working capital which is necessary to acquire raw materials, to finance partly-finished products and finished products, to provide for labor, to finance accounts receivable, and so on, until profits begin to be realized cannot be quite so definitely determined. Some of the important factors which must be considered in estimating these initial working-capital requirements are: the proposed volume of production for the market, the probable distribution of purchases throughout the year, the credit terms upon which purchases will be made, the distribution of manufacturing and selling expense throughout the year, the credit terms upon which sales will be made, and the probable distribution of sales through the year.

Careful attention must be given to the ratio of working capital to fixed capital when a business starts. An inadequate provision for equip-

ment may result in a loss of productive efficiency. And too liberal an outlay for equipment may cripple the business by impairing its working capital.

> If the new mercantile firm will rent its store instead of buying a building, and if the new manufacturing concern will have its product manufactured on contract for two or three years instead of buying a plant and equipping it, the infant enterprise will have time to get its bearings; whereas a burden of fixed charges at the outset may be a source of delayed profits or even receivership. The new business needs to build up its resources.[4]

Business enterprises are dynamic organizations. They either expand or take sick and ultimately pass away. They move forward or backward. Going concerns, then, face this same problem of acquiring new permanent capital and new working capital. In prosperous times, business men are wont to plan new establishments or enlarge old ones. One method of obtaining funds to purchase more machinery or to enlarge the factory is to turn the profits back into the business. This, however, is a slow method unless profits are unusually large. In many cases, financial administrators do not feel that it is desirable to wait for the slow accumulation of earnings in order to secure additional fixed capital. They are quite ready to face the problem of securing additional amounts from outside the business. In

the same way, any suggested expansion may present a need for additional working capital with which to purchase raw materials and the like. Moreover, irrespective of expansion, temporarily-reduced earnings, as has already been suggested, may make it necessary to secure additional working capital. In considering these two needs when they become apparent, the financial administrators must give considerable attention to such questions as: the continuing ratio between permanent and working capital, the necessary additional amounts of each, what kinds of contracts shall be made with persons who have funds to supply, how these contracts can be made attractive to lenders of funds and still be safe and sound from the point of view of the business, how these contracts shall be negotiated, and what use shall be made of financial institutions and financial middlemen.

The financial administrator or manager may accomplish the task of securing initial fixed and working capital or new fixed and working capital in many different ways and by making use of many different contractual devices. An individual proprietorship or partnership, for example, may secure fixed capital by issuing to the mortgage company a promissory note which pledges property as security. The mortgage company furnishes the funds and may market the mortgage to individuals, savings banks, insur-

ance companies, or trust companies. Or the individual proprietorship may become a partnership, the new partner or partners bringing in additional fixed capital. Or the individual owner may himself decide to put more fixed capital into the business. The partnership may add to its fixed capital by expanding the partnership and bringing in new partners who are willing to invest fixed-capital in the particular business. Working capital may be secured by the individual proprietorship or partnership by securing trade credit from concerns which sell goods to the particular proprietorship or partnership. Or they may find commercial credit or discount companies which are willing to buy the proprietorship's or the partnership's "accounts receivable." Or they may go to commercial banks and negotiate short-term loans on the basis of promissory notes. Or they may obtain funds from commercial-paper houses in the same way.

The corporation secures its fixed and working capital in much the same way as the individual proprietorship or partnership. It may sell its stocks or bonds to members of the company personnel, to former and present stockholders. It may attempt the direct sale of its securities, altho few corporations have the facilities or the experience necessary to distribute their own securities except in limited amounts. Usually, then, the corporation must make use of some

financial middleman. An investment-banking institution may agree to underwrite the corporation's stocks and bonds. The investment-banking institution then sells these securities to individuals, insurance companies, savings banks, trust companies, and other concerns. If its stocks and bonds are not of high grade, the corporation may find it necessary to call upon dealers in low-grade securities who attempt to seek out investors through personal sales forces, circulars, and publication advertising.[5] In its short-term needs, the corporation may be assisted by grants of trade credit. Its "accounts receivable" may be taken over by commercial credit and discount companies. It may borrow on its promissory notes from a commercial bank or a commercial-paper company.

The capital of a business enterprise is the net value of the enterprise's assets, the plant, its equipment, materials on hand, cash, and so on, all added together, and less the total of liabilities to creditors. The term capitalization, as commonly used, means the total par value of the security issues outstanding at a given time.[6] Naturally, the capitalization of a concern is rarely identical with the actual value of its outstanding securities. When the value of the outstanding securities is higher than the capitalization indicates, the enterprise is said to be under-

capitalized. When the opposite situation obtains, the enterprise is said to be overcapitalized.

The bases of capitalization are actual cost, cost of replacement, or earning power. The basis of actual cost is seldom used except "when the business is small or closely owned." Nor is it always a conservative basis. Recapitalizing an old business at cost may result in overcapitalization if the assets of the business have deteriorated. The cost of replacement is not widely used as a basis for capitalization except, perhaps, in cases of reorganization. The most commonly-accepted basis is that of earnings.

> Let us assume that a business with a $100,000 plant is earning $30,000 a year on the average. How much is it worth? Certainly more than $100,000. We should be glad to pay $200,000 for it, for this would give us 15 per cent. on our money. It is worth more than this. We should be able to mortgage the plant for, say conservatively, $50,000 at 6 per cent. The interest would take only $3,000. We might put out a 7 per cent. preferred-stock issue of $100,000, which would take $7,000 for dividends. This leaves $20,000 in earnings for the common stock, enough to pay 8 per cent. dividends on an issue of $250,000.
>
> The earning power, in this case, has determined the amount of capitalization—$400,000 the total of the three security issues.[7]

It is not difficult to capitalize a going business on the basis of earnings, because actual and tangible results of the business are available in

the earnings records. In the case of a new business, however, anticipated earnings must be used as the base. Hopes must, then, be considered very carefully and conservatively.

Three types of financial structures are common. The first design may be said to be somewhat like that of a pyramid.[8] Suppose that a certain company is capitalized as follows: Mortgage bonds, $200,000; other bonds, $400,000; preferred stock, $1,000,000; and common stock, $4,000,000. The broad base of the structure rests upon the common stock contributions of the actual owners. From the base upward, the structure tapers up through a contribution of creditors of $400,000 to the apex contribution of creditors (mortgage bondholders) of $200,000. Only slightly more than one-sixth of this corporation's funds come from outside the business itself. Corporate income *must* be paid out as interest on only one-sixth of the corporation's capitalization. If the corporation does not pay interest on its mortgage bonds, the creditor bondholders can have the mortgage foreclosed. If it does not pay interest on its other bonds, the particular bondholders may institute suit against the corporation. In either situation the corporation will be likely to land in receivership. The corporation, however, is under no obligation to pay dividends on either class of stock unless the stockholders can prove in court that the direc-

tors are acting in bad faith by actually withholding dividends. Of course, if the preferred stock is cumulative preferred stock, the stated preferred dividend percentages will pile up and remain an obligation to be met in the future. Such a financial structure as is outlined above provides great strength. While its sloping sides cut off valuable space and mean some waste borrowing space, it is nevertheless firmly based. Any corporation which must face wide variations in earnings between its fat and lean years, must work toward the pyramid design.[9]

The other extreme of structural design is the inverted pyramid. Suppose that a corporation is capitalized as follows: Mortgage bonds, $3,000,000; other bonds, $1,000,000; preferred stock, $600,000; and common stock, $400,000. Such a company, figuratively speaking, is standing on its apex. Its base is up in the air. Four-fifths of the capitalization requires the expenditure of corporate income for fixed interest charges which must be paid if financial difficulty is to be avoided. Certainly, such a financial structure will not withstand the stress and strain of financial storm. Any business crisis or market change which results in a sharp reduction in earnings will precipitate a thunderous fall and crash.

The mean type of structural design which stands between the pyramid and the inverted pyramid is often called the office-building finan-

cial structure. Suppose that a corporation is capitalized as follows: Mortgage bonds, $1,000,000; other bonds, $1,500,000; preferred stock, $1,000,000; and common stock, $1,500,000. Such a company, figuratively speaking, is like an office building. Borrowed funds and owned funds are equal. The structure is designed with maximum utility in mind, as well as strength. However, it should be indicated that in this particular set-up, the fixed charges on borrowed funds are heavy. In any attempt to construct an office-building type of financial structure, conservatism necessitates, as a general rule, more emphasis on basic strength.

Such, then, are some of the relatively infrequent financial problems that confront the financial administrators of a modern business.

There is, for example, the matter of maintaining adequate reserves and building up the surplus. It is customary and desirable for most concerns to charge against the earnings of each year certain estimated amounts as rainy-day insurance. Such funds are called reserves and are carried on the balance sheets to meet possible contingencies and to provide for future expenses. The existence of these reserves is necessary to preserve the company's capital in an unimpaired condition. A common form of reserve is that which is set aside for depreciation. Plants, machinery, store buildings, and the like,

depreciate physically from year to year. "Unless allowance is made for the wear and tear on property and machinery, a business is living off its own fat."[10] The normal procedure may be as follows: If a particular machine has a probable life of ten years, ten per cent. of the value of the machine may be set aside every year in a depreciation fund. At the end of ten years, enough funds will have been accumulated to enable the purchase of a new machine.

If the company makes profits, some of the profits should be left in the business—in the surplus reserve, or account. Generally, it is desirable to fix the stock dividend rate below the estimated minimum earnings. Then, in the good years, the company's extra profits may go into surplus. Such a procedure will make it reasonably possible to pay dividends consistently and year after year. "A company that pays $20 dividends in boom years and has to cut its dividends entirely during a depression is not serving its owners well. The income stops at the very time when it is likely to be needed most."[11] Surplus accounts, of course, may be built up by other methods than the accumulation of certain amounts of the earnings. The revaluation of assets, the sale of assets at more than the value at which they were carried on the books, the donation of an asset or of stock, and the sale of

stocks or bonds above par may provide additional contributions to the surplus.[12]

Decisions with respect to what dividends shall be paid to the stockholders also constitute an important financial problem. A conservative financial policy restricts the declared dividends to an amount considerably less than the earnings. Certainly, dividends should not be declared in excess of earnings. And dividends should never be declared unless they have been earned. The general aim of the financial administrator should be regularity in dividend payments. So far as the stockholder is concerned, regularity of return is more to be desired than high returns in one year and none in the next. Where there are unusual and unexpected profits, extra dividends may be declared, which by their name-tag warn the stockholder not to expect them regularly. If the concern has a large earning power but needs its cash for present operations, it may pay dividends in scrip or stock. Scrip is nothing but an unsecured interest-bearing note.

One of the day-by-day transactions usually assigned to the financial department is the handling of credits and collections.[13] The financial director, in consultation with the director of marketing and the general manager, considers the credit policy of the concern, and together they reach a definite decision as to general credit

limits. Subordinate financial officers may compile credit data from such agencies as Dun's or Bradstreet's, and may supervise the methods of gathering credit data by the firm's own sales force. With such information before them these financial officers pass on the credit of all customers either on individual transactions or through approved lists. The financial officers may also more or less influence the collection policies.

The financial department also has the responsibility for the custody and maintenance of funds. There is a large amount of detail and routine work in connection with the daily disbursements and receipt of funds. Most of this routine work is done through the medium of a cashier. His activities may include: cashing all receipts other than cash; depositing all cash, checks, and cashed receipts; setting up all petty cash funds, disbursing petty cash, making all transfers of funds between depositaries, preparing payrolls, and disbursing all moneys, subject to proper voucher authorization.

The financial department may also assume the responsibility of supervising the correspondence in all cases of financial claims against the company. It may approve all adjustments made by the claim department. It may be required to prepare all tax returns which are made necessary by governmental law. It may determine the amount

of insurance and kinds of policies required to afford all necessary insurance protection. It may have the authority to place all such insurance and be responsible for the payment of all premiums. Thus there are innumerable miscellaneous duties that fall to the financial department.

Now, the financial officers depend upon the accounting group for the facts upon which financial judgments may be based. Consequently, the financial department will very often have charge of the accounting personnel through the chief accountant.

When operated under a proper system and intelligently used, accounting records are reliable guides and faithful indices of business progress. The accounting records will reflect not only total profits earned or losses realized, but—in minute detail—the sources of profits, causes of expense, and the proportionate profits made on any line or division of a business. This makes it possible for the financial manager to suggest the reduction or elimination of unnecessary expenses, to suggest the necessity for increasing the sales of profitable articles and for curtailing the sales of unprofitable ones, or for reducing the cost of producing and selling the unprofitable items. Without accounting systems, large-scale business operations would be practically impossible and small-scale operations would be frightfully wasteful.

Books of account are kept according to the single-entry or double-entry system. The former system is not widely used or generally approved by accountants. It is mainly used by individuals and very small business enterprises.

Equality and equilibrium constitute the underlying principle of the double-entry system.[14] Under this system, every transaction is entered twice in the books of account. There is a debit entry and a credit entry for every transaction. Both the debit and credit "sides" of the books always total the same given amount at any given time. Various accounts may be debited or credited on the principle that "that which receives value is a debtor, and that which gives or produces value is a creditor." The particular accounts may be named for some specified person or group of persons or for some subdivided phase of the company's own personal account. Thus we have personal accounts like "I. Jones & Co.," and nominal or impersonal accounts like "Furniture and Fixtures."

Accounting is a record of progess and not merely a statement of condition. Every transaction has an effect upon the company's affairs. The accounts will express the results of every transaction, and every transaction will bring about two of the following results: increase of assets, decrease of assets, increase of liabilities,

decrease of liabilities, increase of proprietorship, decrease of proprietorship.[15]

There are two general types of books of account, the books of original entry and the books of final entry. The *journal* is typical of the books of original entry and the *ledger* is typical of the books of final entry. Generally, a number of journals are used. There may be a purchase journal which records the goods bought, from whom they were bought, price, department for which they are intended, and so on. The sales journal will give data with respect to sales orders. The cash journal will record all receipts and disbursements of cash. A petty-cash journal, a note journal and a pay-roll journal may also be used. The ledger is a book containing the accounts of the business. An account is a collection of debits or credits under one heading. The heading indicates the subject-matter to which the particular account refers and may be either personal or impersonal. Debit and credit items which appear in the books of original entry must be transferred or *posted* to their proper accounts in the ledger.

By the use of *controlling* accounts, the classification of accounts in the general ledger may be reduced to a comparatively small number. A *controlling* account is an account kept in the general ledger for the purpose of proving the accuracy of some subsidiary record. *Controlling,*

then, is the process of transferring to subsidiary ledgers, accounts which, instead of being kept in the general ledger, are entered in special or subsidiary ledgers. *Accounts Receivable* and *Accounts Payable* are illustrations of controlling accounts. They appear in the general ledger and prove the correctness of the subsidiary *sales* and *purchase ledgers*. The sales ledger contains a record of customers' accounts. The main debit items come from the sales journal, and the main credit items from the cash journal: but both debits and credits for customers' accounts may come from the general journal. The purchase ledger contains a record of creditors' accounts. The principal debit items in this book are posted from the cash journal, and the main credit items from the purchase journal; but both debits and credits for the creditors' accounts may come from the general journal.

From time to time and especially before the preparation of any financial statements, trial balances are taken off the ledger for the purpose of testing whether or not the books are in equilibrium and whether or not transactions have been accurately recorded. A *trial balance* is simply a list of the names and the totals of each open ledger account in terms of debits and credits. One column of figures in the trial balance shows the total of each debit column in the ledger. The other column in the trial balance shows the total

of each credit column in the ledger. The sum of the debits must equal the sum of the credits. Such a condition shows that there has been a debit entry for every credit entry, and that the addition is correct.

The transactions which result from continuous business operations are many and must be followed and recorded in detail by the accounting personnel. The financial officers of the company cannot follow these transactions in detail. Consequently, they are concerned, in the main, with the periodical financial statements of the company's condition and progress. The most important of these periodic financial statements are the balance sheet and the profit-and-loss statement. The fundamental statement is the *balance sheet,* which sets up the financial condition of the business at a particular time. It is a summary of all the company's possessions and obligations as of a particular date. It must show the value of the assets, the value of the claims against the assets, and the value of the difference.[16] However, since many transactions are incomplete at the time the balance sheet is made up, the balance sheet is only an expression of expert accounting opinion regarding the financial condition of a business at a given time.

The following balance sheet is typical of the form in which this statement is usually presented:

BROWN MANUFACTURING CO.*
Balance Sheet, January 31, 19—

Assets		
Current Assets:		
Cash	$ 6,550	
Accounts Receivable $30,100		
Less—Reserve for Bad Debts 300		
	29,800	
Raw Materials	30,000	
Goods in Process	20,000	
Finished Goods	9,000	
Total Current Assets		$ 95,350
Fixed Assets:		
Machinery and Equipment	70,000	
Less—Reserve for Depreciation	7,700	62,300
Total Assets		$157,650
Liabilities		
Current Liabilities:		
Vouchers Payable		$ 46,750
Capital		
Capital Stock	82,000	
Surplus	28,900	
Total Capital		110,900
Total Liabilities and Capital		$157,650

The profit-and-loss or income statement presents a history of what has occurred in a particular fiscal period. It explains in detail the transactions of the period and thereby records the efficiency and progress of the business. The following statement of income, profit and loss is

typical of the form in which this statement is usually presented:

BROWN MANUFACTURING CO.[25]

Statement of Profit and Loss for the Month Ended January 31, 19—

Sales		$50,000
Cost of Sales		
Materials Consumed:		
Inventory Raw Materials, Jan. 1, 19—	$20,000	
Add:		
Purchases of Raw Materials	$42,000	
Freight Inward	50	
Cost of Purchases of Raw Material	42,050	
Total Material Supplies available for use	62,050	
Less Inventory Raw Materials Jan. 31, 19—	30,000	
Cost of Materials Consumed		32,050
Direct Labor		10,000
Prime Cost		42,050
Manufacturing Expenses:		
Indirect Labor	3,000	
Light	50	
Power	250	
Rent	1,000	
Insurance	200	
Repairs to Machinery	200	
Depreciation of Machinery and Equipment	700	
Total Manufacturing Expense		5,400

Total Cost of Goods Put in Process ...	47,450	
Add—Inventory—Goods in Process, Jan. 1	15,000	
Total Goods in Process Handled during the period	62,450	
Deduct—Inventory—Goods in Process, Jan. 31	20,000	
Cost of Goods Manufactured	42,450	
Add—Inventory Finished Goods, Jan. 1	10,000	
Total Finished Goods available for sales	52,450	
Deduct—Inventory Finished Goods, Jan. 31	9,000	
Cost of Goods Sold		$43,450
Gross Profit on Sales		6,550
Operating Expenses:		
Selling Expenses	2,650	
Administrative Expenses	1,600	
Total Operating Expenses		4,250
Operating Income		2,300
Other Income:		
Purchase Discounts		2,800
Total Income		5,100
Deductions from Income:		
Sales Discounts	1,900	
Provision for Doubtful Accounts	300	
Total Deductions from Income...		2,200
Net Profit for the Month		$ 2,900

It is clear that a great deal of valuable information can be obtained from a single balance sheet, and from a profit-and-loss or income statement for one period. However, it is equally obvious that changes in conditions which are made in a particular period can hardly be regarded as satisfactory or desirable changes unless they result in a financial improvement over a previous period. Results should be shown in comparative statements. By studying and analyzing the effects of a certain policy with respect to periods, the financial officers are in a position to evaluate the policy with reasonable accuracy.

More and more, the financial department is requiring and using statistical records to supplement the usual accounting statements. This tendency has broadened the scope of the work of the accounting group and of the financial officers from the mere expression of financial debits and credits to a larger field where real productive and constructive work is done. Statistical records present results measured in physical units. These records quite frequently explain facts brought out in the financial statements, facts which are not clearly understood until more light is thrown upon them.

Statistical records have become so important that the financial officers of progressive business enterprises make plans for collecting statistical information just as carefully as they do for col-

lecting accounting information. Statements are prepared which show the physical units produced, time records, schedules of accounts receivable, statements of new customers, inventory schedules, and so on. These reports may be compiled as often as once a week. The financial department receives them currently and takes note of any unsatisfactory condition in any department. Reliance, then, is not placed solely upon the primary accounting records.

Finally, it should be said that while accounting and statistical systems must be complete and detailed, care must always be exercised by the financial officers to see to it that the cost of operating the systems should be as economical as is consistent in obtaining the maximum of necessary information.

> A business ought to watch its accounting diet. With too little accounting the business may starve. With too much accounting it will be wasting energy in the time consumed and the salaries paid for the working of a system that may be unnecessarily detailed for its needs. After all, accounting is at best a road map. It can never be turned into an engine. Figures will move no goods nor will the most elaborate records, of themselves, add a single new customer.[19]

XV

TO-MORROW AND TO-MORROW

It is said that a lobster, when left high and dry among the rocks, has not urge and energy enough to work his way back to the sea, but waits for the sea to come to him. If it does not come, he remains where he is and dies, altho the slightest effort would enable him to reach the waves, which are tossing and tumbling within a yard. The world to-day is too full of human lobsters stranded on the rocks of traditional business organization and methodology, calmly waiting for some grand billow of future fortune, or, perhaps, drifting for the time in the main currents of prosperity by pure chance and without any charted effort to direct their course. And yet, there can be neither security or assured prosperity in our present economic society if we depend upon the thinking of the economic drifter and of the complacent business manager. Limp thinking is in no way to be trusted, and the future is of moment to us all.

"To-morrows are more and more embodied in to-day," and "The journeys of next week are here before the week arrives."[1] In the actual conditions of the present there is a deal of fact and evidence which furnishes a sound base

for significant speculation. Moreover, while changes often burst upon our economic institutions and our business methodology with astounding speed, everywhere the old and the familiar put up a front to meet the challenge of change. The fundamental economic institutions have a hold which cannot be quickly or easily loosened. Consequently, certain cautious inferences with respect to the new conditions and the new problems of the next decade would seem to be in order. The germs of these new conditions and new problems are already implanted in the soil of the present.

The present has an extended reach. It is an "area of time that reaches fore and aft" from this minute "a score of years or more."[2] Altho this chapter is entitled "To-morrow and To-morrow," what it really attempts to do is to look squarely at the present "under the restraint of the lessons of the past." If it extends the present into the future, it does so "under spur of imagination as to the possibilities of the future," but it still looks squarely at the present in its true time-significance.

In the field of production, the United States leads the world. While our country contains only 7 per cent. of the world's territory and only 6 per cent. of its population, it produces 90 per cent. of the world's motor-cars, 66 per

cent. of the world's oil, 60 per cent. of the world's cotton, 55 per cent. of the world's timber, 40 per cent. of the world's iron and steel, 38 per cent. of the world's electric power, 85 per cent. of the world's films.

> Everywhere we see automobiles that really look like pleasure vehicles. And it takes no Argus to find tires that will go 25,000 miles, brushing lacquer that dries in 30 minutes, washing machines that are wringerless, movie cameras that slip into a coat pocket, clocks that run by electricity, boilers that feed themselves, farm machines that cut and thresh grain at one operation.[3]

Out of our laboratories and our factories tumble an ever-increasing tonnage of goods. And the net increase in tonnage since 1922 is small as compared with the astounding growth in the variety of goods.[4] The tempo of our industrial manufacturing is perfectly amazing. Per-capita productivity has increased by 30 or 40 per cent. in the past decade and is still increasing. The growth in our utilization of power is 3¾ times faster than the growth in population.

We are, of course, wedded to a policy of mass production at low manufacturing costs. Under such a commitment, it will be surprizing if additional efforts are not in store for industry which still further will speed up the process of manufacturing and result in increased quantities of

available goods. Moreover, business management recognizes that the consumer seldom resists the appeal of obsolescence. More and more, the "new" product is desired before the "old" product is worn out.[5] Because of the consumer and the advancing contributions of science in product development, the opportunity to produce the new and the slightly different is always enticing to the producer. We need to expect an increasing variety of goods.

Cloth and paper are "slipping up from behind" with a flame-resistant process, thus freeing them from an ancient handicap in competition. Oil "looks across and beyond" and anticipates an engine designed to use pulverized coal. Chemistry, by the development of antioxidants, saves rubber tubing, about to be discarded by the player-piano industry, by lengthening its life ten times. The furniture industry is not asleep to the advance of metal tables, chairs, and beds in colors, and comes to grip with the sheet-metal makers.

In the research department of one of the great rubber companies is what might be called a "closet of the future." In it are all sorts of rubber articles. They are waiting for to-morrow. Their production is too costly for present competition.

But let external forces appear—leather prices go up, rubber prices go down, or the processing be cheapened a bit—and "present competition" will feel the pinch unless it has anticipated those external forces.[6]

So far as amounts and varieties of products are concerned, the future probably holds for us wonder after wonder. Amazing achievement will follow on amazing achievement with a rapidity that will find no measure in our outworn stock of superlatives.

Three important observations would seem to be pertinent in this connection. In the first place, our industrial management and our manufacturing processes have become so expert already, that we have passed the point where our manufacturing output, "functioning steadily day in day out, can be absorbed by the consuming population."[7] We probably have in the United States, even to-day, twice as much industrial-plant capacity as can be kept in steady operation without loading down the manufacturers' inventories far beyond the danger point. In the second place, much of our increased factory output is in the nature of comforts and luxuries which bid for the consumer's dollar and often win large portions of it at the expense of prime essentials. Finally, the consumer is very rapidly extending the factors of style and taste to the purchase of products in which these factors have scarcely figured before.

What, then, of manufacturing on the morrow? For one thing, business management will come to a clearer understanding of the fact that mass production at low cost presupposes mass dis-

tribution at relatively low prices. Since low prices depend upon low total costs, there will be a more general realization of the marketing limitations upon mass production. Low manufacturing costs under a system of mass production necessitate the standardization of the product line which is being manufactured, and a large volume of continuous sales. The attainment of results is put squarely up to distribution and marketing. Paul Mazur summarizes the matter succinctly and forcefully:

> High-cost distribution is the price exacted by mass production. Altho the services which high-pressure distribution has rendered to low-cost production are enormous, nevertheless the economies of manufacturing are being offset by the increasing cost of sales. Undoubtedly this in turn has stimulated new inventive and engineering skill to increase production efficiency, but there is a limit even to this possibility; and it is not at all an inspiring experience to find the rewards of manufacturing ingenuity swallowed up by increased marketing costs. Moreover, when economy in production has exhausted its major possibilities, a continuation of rising costs of sales will reflect itself in lower profits; and even with the hero-worship that exists for mass production, the American business man does not believe in volume for sake of volume unabetted by a substantial profit-showing.[8]

In the future it is unlikely that manufacturers will attempt to apply mass production to the

manufacture of goods which are purchased with the factors of style and taste as dominating buying motives. Already there are indications of the soundness of this statement. The manufacturer of goods which cannot be highly standardized must maintain a flexibility in his plant which will permit him to adjust his production to new demand-tendencies on short notice. Even tho goods can be standardized, if they will not sell more or less continuously and in volume in competition with similar goods that are changed very frequently, it is unprofitable to manufacture them under a system of mass production. In the manufacture of such goods, the trend to-day is away from centralization and larger factory units. In fact, the trend is quite definitely toward decentralization and smaller units.

Unquestionably, many manufacturers are already recognizing the fact that what they have been calling overproduction or underconsumption is simply the wrong kind of production.[9] They see with increasing clarity that the wrong kind of output must be sold under distress conditions if it is sold at all. Reluctant as they are to decrease prices, they find it necessary to increase the sales pressure and to plunge into exorbitant marketing costs. These marketing costs increase the total costs and decrease profits. Systematic mass production does not pay for some types of products.

Along with this development in manufacturing, undoubtedly, the principles of mass production will be applied in "backward" industries where the standardization of goods is possible. Such industries as coal-mining, textiles, clay products, the needle trades, and so on, can well undergo considerable improvement in their technological processes of manufacture.[10] Mass production, however, is not desirable in all of these "backward" industries.

Again, there will probably be a considerable increase in manufacturing mergers as a result of a growing body of thought in such matters as have been pointed out above. Many attempts will be made to merge concerns which produce standardized goods on a mass-production basis with plants which produce goods that are dominated by factors of style and taste. In such mergers, one group of plants can be operated as flexible units while one large plant can be made to tumble its products off the assembly line in volume and with regularity.

On the side of distribution or marketing, present trends indicate many changes in the years that are just ahead. The seriousness of the problem of effective and economical marketing costs has been borne in upon the most complacent during the past decade. We are conducting our business operations in an "age of distribution," an age which has already begun to demand a

thorough overhauling of marketing activities. Unquestionably, the drive for economy in distribution will result in the application of scientific procedure to the study of marketing problems. Already, great progress is being made by individual sellers in attacking the question of marketing costs.

In methods of distribution there are two present-day developments of importance—chain-store selling and instalment selling. We have in the United States to-day over 10,000 chain-store organizations with more than 100,000 retail outlets. In 1928 the sales of these chain-store organizations were estimated at 6.2 billion dollars or 15 per cent. of the country's retail trade. In the month of September, 1929, 41 new chain-store organizations opened 1,074 stores. Sales on the instalment plan probably total over six billions of dollars in this country to-day. The method is generally recognized and is particularly important in the marketing of automobiles, washing machines, vacuum cleaners, electric and mechanical refrigerators, oil burners, stoking devices, radios, phonographs, furniture, pianos. and jewelry.

The chain retail store appears to be with us for a considerable stay. The available facts seem to indicate that the chain store is an intelligent experiment in financing and operating retail establishments. By buying in quantity the chain

makes its purchases at favorable prices. By eliminating slow-selling items, it cuts down its inventories. By practically discontinuing delivery, it reduces its operating expenses. By selling on a cash basis, it escapes the burden of credit losses. By scientific management, careful store arrangement, trained salesmanship, and judicious advertising, it secures volume of sales at low cost. The following statement with respect to the food industry is typical of actual results:

> When it is realized that they (the chain stores) have substituted for the wholesale grocers' operating percentage of 10½ per cent. and a retailer's percentage of 18½ per cent., making 29 per cent. in all, a total operating cost for the combined agencies of 16 per cent. divided 5 per cent. for warehousing and 11 per cent. for retailing, representing a saving of 13 per cent., it must be recognized that they have built, upon a solid rock of savings, a business house that will remain unshaken and undisturbed.[11]

It appears from reliable data that it is difficult for any retail business to count consistently and continuously on a net profit of more than about 2½ per cent. Consequently, unless a retail business can make more than $50,000 worth of sales per year, the proprietor of the particular retail establishment cannot count on a weekly profit of much over $23. "This is less than the market price for good brains of the necessary type."[12] In the recent so-called Test Census

of Distribution covering 80,000 independent retail stores in eleven cities, it is pointed out that 28 per cent. of the stores were trying to make living profits out of 1.6 per cent. of the business, and that 88 per cent. of the stores doing about 30 per cent of the business sold less than $50,000 worth of goods each. So long as independent retailing implies incompetent operating practise or wasteful operating scale, there seems to be no doubt that the chain store will continue to flourish.

Many independents have taken a leaf from the book of the chain store. Instead of fighting the chain store and lobbying for restrictive legislation against it, they are forming voluntary chains. These voluntary chains assist in maintaining personal ownership in the retail, and even the wholesale business, but they adopt many of the fundamental principles of chain-store operation. In the grocery field, at the present writing, 65 per cent. of the total number of retail stores are independents. Of the remaining 35 per cent., 17 per cent. are chain stores and 18 per cent. are voluntary groups of independents. In this field, the voluntary chains have already exceeded the genuine chains.

To what extent chain stores will supplant the independents, and to what extent the independents will unite in voluntary groups until the 65 per cent. now operating actually inde-

pendently have been supplanted or absorbed, depends upon the comparative creative and progressive ability and spirit and the business and managerial capacity of the executives of the respective groups.[13]

In the early days the chains were owned by individuals or by groups of associated partners. But to-day they are passing into the hands of large corporations. A program of a thousand new stores in the course of a single year is not an impossibility. Small chains are slowly expanding into larger ones, and large groups are merging other large groups. In 1917, a group of five large chains headed by the Acme Tea Company united and formed the American Stores Company with 1,223 stores. In 1928, the National Tea Company acquired a number of smaller chains and added 400 retail outlets in the year. The Walgreen drug chain started in 1927 with 106 stores. At the end of one year it had 200 stores. The Kroger Grocery Company has swallowed up ten medium-sized chains and now has 5,000 stores. There are 10,000 meat markets run by chain grocery companies, in addition to 2,000 markets in straight meat chains. Out of 800 grocery chains 262 have added meat departments to some of their stores. The Mirror Candy Stores are absorbed by the Happiness Candy Stores, the Happiness Candy Stores are absorbed by the United Cigar Stores, and the United Cigar

Stores are absorbed by the Gold Dust Corporation. And so it goes. While the ownership of the chains tends to concentrate in the hands of fewer and larger corporate organizations, the ownership of the corporations themselves tends to diffuse among a larger number of stockholders. Those chain stores which were once owned by a few thrifty merchant princes are now owned by hundreds of thousands of investors. The process of distributing hundreds of millions of shares of chain-store stock is going on all the time.[14]

Already there are evidences of a growing struggle between the manufacturer and the retailer for the consumer's loyalty. Some manufacturers look upon chain and large-scale retailing in fear and trembling. They begin to think of controlling retail outlets through the establishment of manufacturers' chains. They want to get closer to the consumer in order that they may, through contact and behind-the-counter salesmanship, develop loyalty for manufacturers' brands. They see the desirability of "push" methods of marketing as a complement to the "pull" methods of national advertising to the consumer.

Furthermore, the competition of the meat chains and the rapid growth of the meat departments of grocery chains is causing concern. On their own side of the fence, the chains are increasing their efforts to win consumer loyalty

for store or "private" brands and are reaching toward the control or ownership of their own manufacturing sources of goods.[15] The large grocery and meat chains have set out to produce their own meats. They have acquired many small local packing-houses, and they are establishing others. They have found that they are frequently able to sell fresh meats to the consumer at just about the price they would have to pay Swift and Armour. Thus, they can undersell the local dealers and still make a fair profit. They are proceeding with their program of opening modest-sized packing-plants in sections contiguous to the source of supply. They are bringing back the old-time slaughter-house, which was forced out of business a generation ago by the large packing companies.

This one instance is indicative of the important marketing battles for consumer loyalty which are ahead.

Instalment selling, too, appears to have come to stay. It is used by the manufacturer who sells through his own outlets and by the large-scale retailer who buys where he will. As yet, of course, it has not been thoroughly tested as a permanent credit device. It will be still further examined, discussed, and altered. Without doubt, one of the greatest, if not the greatest social problem of any nation is concerned with the intelligence or lack of intelligence with which

its citizens use their personal incomes. For this reason there are many altruistic fanatics who decry the practise of instalment selling in all its aspects. They feel that instalment selling has "created some six billions of new purchasing power out of thin air." They are positive that people are buying goods beyond the point of good judgment and beyond their ability to pay. This is not the general attitude of business, but there is growing evidence that distributers realize that cash must ultimately be paid in any system of instalment selling—cash plus 15 per cent. interest on the average. Purely business considerations are stimulating study and inquiry into how far people may go in spending up to their full capacity to pay, and how far they can obligate themselves for debts "based upon a relatively uncertain assurance that the capital will be produced to meet those debts." There is already the growing suspicion among many business men that if the "wholesale urge" to mortgage incomes before they are actually earned becomes a continuous and consistent method for the possession of the common articles of everyday use, business may suffer as well as the general good.

On the score of finance, the increasing temptation to spend which is the result of modern marketing has not seriously affected savings and investments. Life insurance policies in force

passed the billion-mark in the autumn of 1929. The number of American stockholders is estimated by the President's Committee on Recent Economic Changes as 17,000,000 or one in every seven of population. The expansion of the investment trust is perhaps the most important financial development of the last decade. Through such organizations the small investor helps to finance all kinds of business enterprises. It is estimated that more than three billion dollars has gone into the security issues of the investment trusts, more than half of it within the past year and a half.

Another important development in the field of finance is the growth of the chain idea as applied to banking. These new groups or chain-banking systems are of three principal types. First, there are those groups in which the dominant element is a particular bank exercising direct or indirect, but perfectly definite, control over a number of other banks. Some 77 chains of this type are in existence, involving 402 banks and representing $6,104,000,000 in banking resources. Again, there is the chain system in which a non-banking holding company is the dominant element. Some 28 chains of this type are in existence, involving 311 banks and representing $4,929,000,000 in banking resources. Finally, there is the chain system in which the dominant control is exercised by individual per-

sons or groups of individuals acting for themselves. There are some 167 instances of this type of chain, involving 1,071 banks and representing about $1,468,000,000 in banking resources.

> Generally speaking, but not universally, banking laws make it impossible for banks to build corporate chains directly. National banks are not permitted to invest in the stocks of other corporations, and this is also the law in a great many States as to State banks, altho trust companies ordinarily are allowed to make such investments. Therefore, broadly speaking, existing laws have resulted extensively in chain-bank organizations being controlled either by a holding company created specifically for the purpose and owned pro rata by the bank's stockholders or by a trust for the benefit of stockholders or a given bank or group of banks. Closeness of tie, however, between the dominant banks and a chain system is not seriously impaired by those legal devices, which after all amount merely to a paper partition in the organization controlling the bank chain, with physical arrangements, management and operating personnel virtually a unit.[26]

These new banking chains have many seeming advantages. They can adopt and standardize the best accounting and auditing methods. They can provide a greater mobility of commercial banking funds with safety and propriety. They can handle desirable loans, too large for an individual bank, by dividing the loan with the

holding company and other members of the chain. Moreover, they are able to secure a geographical distribution of risk as well as a diversification of credits and investments. If mergers, consolidations, inter-industry competition, and cooperative association are the necessary instrumentalities to produce and market in the future, then the banking facilities must be marshaled and organized in order to furnish credit for these mass operations.[17] If these chains can succeed in preserving the local character of their individual establishments by retaining local management and personnel and distributing chain stock through the communities which they serve, they will probably persist and expand.

Such, in brief, are some of the manufacturing, marketing, and financing tendencies of the immediate future. The list is short and the treatment sketchy, but the limitations of space forbid extension and expansion. However, one thing seems sure—all these tendencies are working in the direction of large-scale business organization and operation by means of merger, consolidation, and associated enterprise. What, then, will be the effect of all this upon the economic anomaly which was expressed in our first chapter? Will it be resolved, compromised, integrated or intensified?

The conflict between the individual business interest in making money and the social interest

in the making of goods cannot be resolved under a business or money-profits economy. A complete resolution of this conflict would be possible, theoretically, under a system of communism. Under such a system, the community would own and control production as well as direct the distribution of goods among its citizens. The rough formula goes as follows: "From each according to his abilities, to each according to his needs." Theoretically, if distributive shares are predetermined, each individual in society would gain most when production was greatest. Under this type of system, the profit motive would be eliminated. But such a condition does not present any likelihood of increased production of goods with a consequent higher average level of well-being. Moreover, it is perfectly evident "that what is everybody's business is nobody's business, and that the socialization of responsibility makes for individual irresponsibility."[18] The pertinent question is simply this: what motive other than money-profits will impel individuals to exert their full abilities in producing goods? What price a system of ideal distribution if there is nothing to distribute? Finally, any system which restricts liberty and limits freedom of choice might give the individual in society a larger material supply of goods, but it would surely "result in a lessening of total gratifications."

Again, this conflict may be resolved under a

system of anarchism, the complete individualization of responsibility for production. If each individual or family produced all that it consumed and consumed all that it produced, we would have such a system. "Exchange would not occur—and so 'society,' in its economic sense, would cease to exist." [19] Nevertheless, the material welfare of every individual would depend upon his productive activities. Such a system, however, is almost unthinkable.

Now, various degrees of compromise may be effected between the two conflicting aims of the individual and of society. Social control of the process of want-satisfaction is the method of compromise, and this social control may take the form of direct participation by the government (socialism) or the form of governmental regulation of private enterprise and capitalism. Socialism advocates the collective ownership or democratic management of production. It does not go so far as communism, in that it advocates not an equal distribution of wealth, but rather a change in the method of "directing production and distributing incomes." While there are many brands of socialism, it may be said that fundamentally most socialists believe in the following principles: First, the abolition of the rights of private ownership in the means of production, with retention of private property

in articles of personal use. Second, the administration of the means of production collectively through a democratic political organization. Such a system would add greatly to the powers of government and increase the number of government offices. This would increase the number of candidates and intensify elections and preceding campaigns. "Even business competition is probably less wasteful than a political campaign."[20] Moreover, a system of complete social ownership inevitably becomes inflexible and bureaucratic. It cannot quickly adjust itself to changes in demand or to new methods of production. It would not, in all probability, be able to administer and operate productive machinery at any approach to its present efficiency, however unsatisfactory that may be. Finally, the system does not express actual human nature.

It is very difficult for us even to amuse ourselves without some element of competition. Find out what amuses people, what gives them a thrill or leads to a feeling of exaltation, and you at least have a clue to some of the essential qualities in human nature. You will not have to go very far to discover that tens of thousands of people will turn out to witness a competition of one sort or another, ranging all the way from prize fights to games of golf. Newspapers, which probably sense the public feeling pretty accurately, will give columns of space to games of chess or whist. You will have to go a long way before you find tens of thousands of people

turning out to watch men cooperate, where there is no element of competition involved.[21]

Whatever general social control of business activity is to be exercised in the next decade will, in the main, take the form of government regulation, restriction, and promotion, rather than of direct governmental participation in production on any extended scale. Private enterprise and the incentive of money-profits based on private property will continue to be the rule.

Finally, it should be pointed out that the present trends in business management are actually tending toward an integration of the economic anomaly. Under present and probable future conditions it is and will be more necessary than ever to make goods in order to make money-profits. Moreover, it will be necessary to avoid the overproduction of the wrong kind of goods. Manufacturing, marketing, and financing trends, when closely examined, indicate a decided tendency toward the making, handling, and selling of more tangible goods and services, and goods and services which are valuable in their "net effect on health, happiness, and habits." In this direction lies the integration of the great economic conflict.

Through the combination of integration and compromise by means of government regulation, restriction, and promotion will come the future adaptation of our present economic system in

the interests of softening the intensity of the economic anomaly.

> Thousands of experiments have been tried with all sorts of social plans, institutions, and systems. Up to the present time, the one under which we are now living has produced somewhat better results, or, to put it mildly, has worked a little less badly than any other. A mechanical engineer or a plant breeder would, under similar circumstances, select it for further experimentation and improvement rather than scrap it altogether and start with something that was entirely new and untried.[23]

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